

The Australian **COMMODORE & AMIGA**

Review

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The Australian
COMMODORE
& AMIGA
Review

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Editorial

Coming Soon : A300-Plus

Several issues back I asked for letters concerning how the Amiga could be better promoted, especially in view of the problems faced competing with IBM clones. We received a large number of letters, some of which are published in this month's magazine.



Interestingly, many agreed there was a real problem. However, one reader also struck on another often ignored area of comparison - the cost of software. Amiga users have long been able to purchase quality software at a much lower price than PC users. This is certainly a consideration when adding up the cost of a typical home system.

However, the most exciting answer to the current situation is the news that Commodore has prototyped several completely new Amigas. It is possible production of at least one of these machines is likely to occur very soon. This may mean units could be available for demonstration in time for the World of Commodore Show in July this year. They will certainly be out in time for next Christmas.

Known as the Amiga 300 Plus, this new beast has the potential to give Nintendo and Sega a kick in the pants, whilst positioning the machine as a potential clone killer when upgraded slightly.

The 300 will probably ship in a small C64-like case, with no numeric keypad. Components will be surface mounted on the printed circuit board to help reduce costs. Like the 500 Plus, it will come standard with version 2.04 ROMs and no doubt the most current chip set will also be included. Like CDTV, it will have optional plug in Smart Cards for storing game high scores or personal data.

There will likely be room internally for an AT style IDE hard drive and both RF and composite output will be built in. The expansion bus will be a 68-pin connector and on the underside the old memory expansion slot will be replaced with the A301-Plus connector. Sound good? The final specifications may well be somewhat different, however one thing is certain. The price could be under the \$400 mark.

What this means is that a 300 Plus optioned up with drive and monitor could well cost under \$1200. No doubt this will give the 286 market some stiff competition. However, the real clone killer could be the Amiga 1000 Plus. Although this machine may not be shipped for some time, the specifications sound good enough to knock both 386 and 486 machines out of the water. More on that one next month...

For those in the know, anyone who can throw more light on the capabilities of Lisa and Alice should drop me a note.

Andrew Farrell

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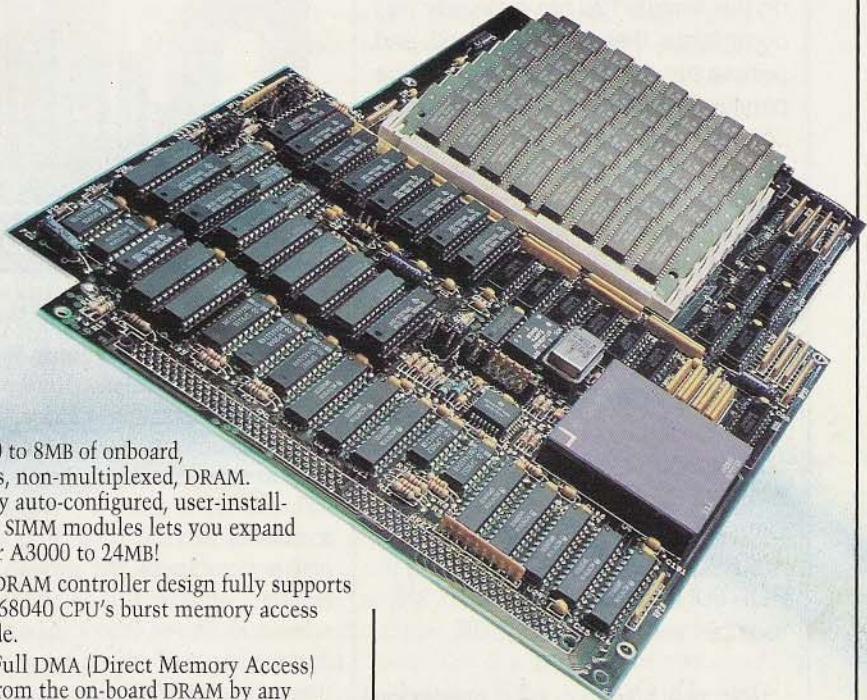
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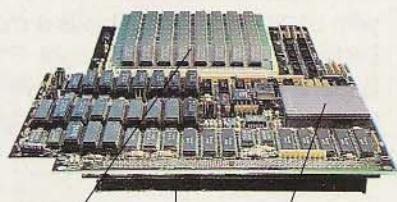
- 0 to 8MB of onboard, 40ns, non-multiplexed, DRAM. Fully auto-configured, user-installable SIMM modules lets you expand your A3000 to 24MB!
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UPDATE

Obviously the biggest news this month is the release of WORLD SERIES ONE DAY CRICKET game on the Amiga. We have already had complaints that it is too good and people are spending too much time playing it! Mind you, it is the sort of complaint we like. Apart from the above our best selling new products on Commodore and Amiga are as follows:

ELVIRA THE ARCADE GAME - C64 & Amiga
INTERNATIONAL NINJA RABBITS - C64 & Amiga
TOP 20 SOLID GOLD - A great compilation - C64
BOARD GENIUS - Tape & Cassette - C64 & Amiga
AND, as usual, the WHEEL OF FORTUNE 2ND & 3RD EDITION, together with FAMILY FEUD

We are also proud to announce that we have just been appointed distributors for Alfadata and three of their great new products are:

ALFASCAN PLUS - This is a 256 grey scale hand held Scanner including specific merging software when scanning an A4 page. We have also released their 2Mb RAM BOARD with 512K on Board. This is a much better buy than the straight 512K Expansion Board as it allows for further memory expansion on your Amiga in the future.

Finally, for those of you lucky enough to have got hold of DOS 2.0, you will have noticed that some older software won't run, so you need a new KICK START SWITCH which allows you to simply switch back to Workbench 1.3 when required.

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Ram Rumbles

Computer Sales Drop

Buying a new computer isn't as popular as it used to be. Sales dropped last year for the first time since 1983, according to a study released by the market research firm Dataquest. Price wars and the recession were blamed for the 7.8% drop in sales revenues. Small, but significant. Of course, it's important to remember that the 7.8% drop is really just a slowing in the growth of the market - which is still enlarging by the minute. However, there can be no doubt that the hopes of certain large corporations of having a PC in every home could well be a mere fantasy.

USA CDTV Ads

Commodore's new print ad campaign for CDTV in the USA has the unit sitting beside a Phillips CD-I with a giant word CAN under the CDTV and a giant CAN'T under the CD-I. Below it says, the CDTV CAN be expanded into a full 1Mb Amiga 500 with thousands of software titles, CAN become a home video editing system, CAN be connected to a parallel printer for hard copy print out, CAN utilize a modem and existing software to become a home telecommunication system, CAN become a home music composition centre through the build-in MIDI interface, CAN utilise 64k and 256K personal memory cards, CAN offer customers a 24hr helpline for questions, and CAN give free *Grolier's Encyclopedia* and *Lemmings* game. Under the Phillips CD-I, the word Can't is repeated.

The president of CBMUS announced, at a Commodore press party, that the

price of the CDTV is expected to drop down to about \$500 by the end of 1992.

In Australia there was no press party, but us reptiles here at ACAR remain hopeful. CD-I is still coming real-soon now, so it will be interesting to see whether Commodore will take on the competition.

Media Spottings

Sightings of the Amiga seem to be hotting up. Reports have arrived by telephone from several sources that many of the Virtual Reality companies spawning around the globe are using the Amiga. We look forward to receiving confirmation once the units are available locally.

The new stand up wild west arcade game which has the player shooting at a large video, several metres in dimension, is indeed controlled by the Amiga. The video footage is stored on laser disc, whereas the computer graphics are all Amiga generated. The gun is connected up as a kind of light pen. Thanks to a service man who called us with that information.

Our regular media spotter with his eye fixed firmly to the tube, Andrew Gormly, reports on several TV sightings of the Amiga or Commodore.

Channel 7's *Now You See It* offered the Amiga 500 as a prize and Commodore even got a mention in the credits. Andrew also notes Adelaide paper, *The Advertiser*, has finally mentioned Commodore in its game review column. It was only their PC compatible which rated a name!

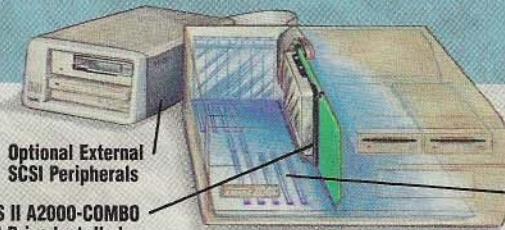
Gary Best, an ABC follower, spotted the Amiga on *The Bill*. The glimpse of an Amiga 500 hooked up to a home television occurred as a police constable entered a house whilst on duty. Amiga is very popular in the U.K. and in Germany advertisements for Commodore products are heard on the radio nearly every hour.

Next month, the best contribution to Media Spottings will receive a free subscription to *Australian Commodore and Amiga Review*. (Andrew Gormly has already earned his several times!) So don't hold back, fax or post us your sightings. Fax us on (02) 398 5322.

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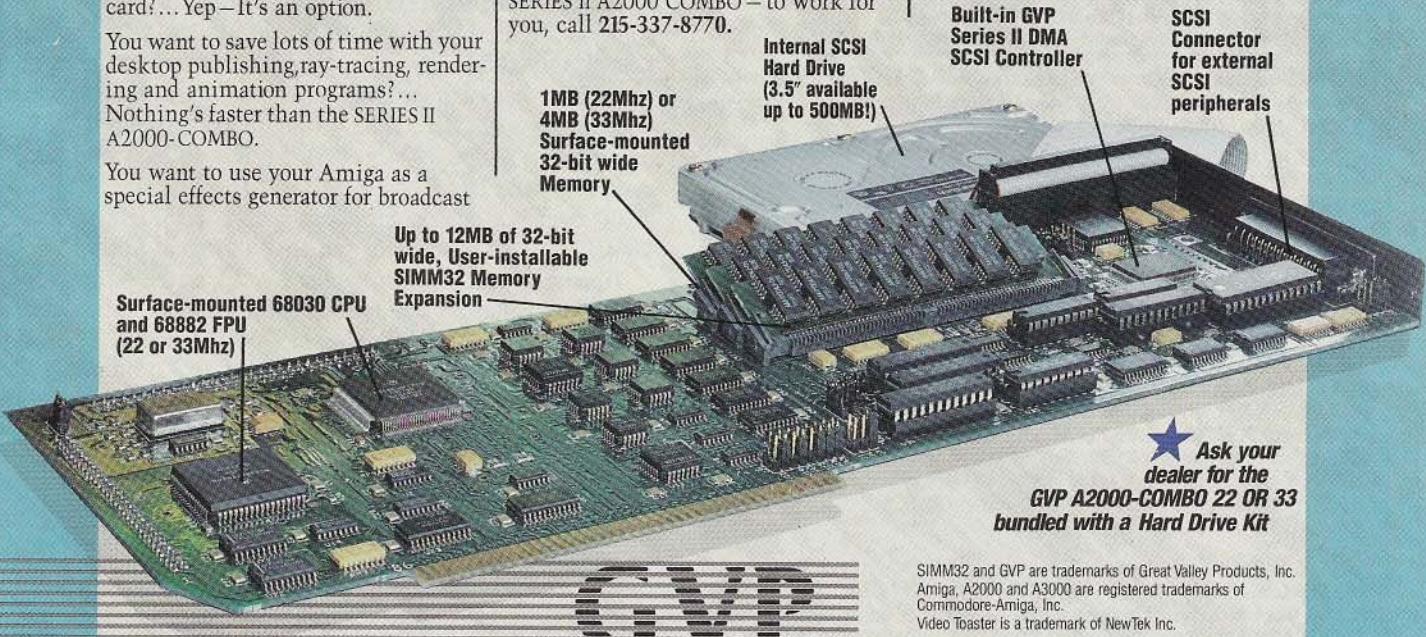
If that doesn't make the SERIES II A2000-COMBO the *Chairman of the Boards*, we don't know what does.

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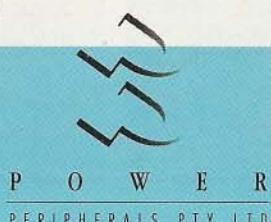


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Letters TO THE EDITOR

In response to our request for ideas on promoting the Amiga, along with comments on how the Amiga stacks up against the competition, we received a flood of letters - some of which follow.

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... At Entry Level

I am a computer teacher and have used and taught computers for many years. I have had an Amiga at home for three years. At school we have Amigas, Macs and IBM clones.

In my experience, the biggest handicap to wider Amiga acceptance is that the entry level model (Amiga 500) does not come with a hard drive as standard. These days any serious computer user considers a drive a necessity. I think that Commodore should package a hard drive with all Amiga 500s (even the 590 would do!).

The package should contain a 1 meg Amiga 500, colour monitor and hard drive and should retail for \$1500. It would be a winner.

John Stone

Murdoch, WA

Ed: Watch the Amiga 300 Plus at the July World of Commodore Show.

... In Business

I always read your editorials, often to renew the "faith" in the Amiga. Your November editorial in particular, did stir up the old nagging doubts in Commodore's charted course. It often appears that they are only interested in pumping out game machines, which until recently, the Amiga excelled. Now there are games that only a PC compatible can run because they are faster and have better graphics and with the addition of a sound card like the Sound Blaster Pro are much better in terms of performance, graphics, software and money!

A quick perusal of the *Sydney Morning Herald* shows that you can get a 25 MHz 386SX with 1MB ram, Super VGA monitor (resolution 1024 x 768), 512KB 16 bit video ram card, 1.44 MB FDD, with a 42MB HDD for \$1350 or less. An A500 does not even come close with a 7.15MHz 68000, 20MB HDD, CGA monitor and 1MB of ram at \$1600!

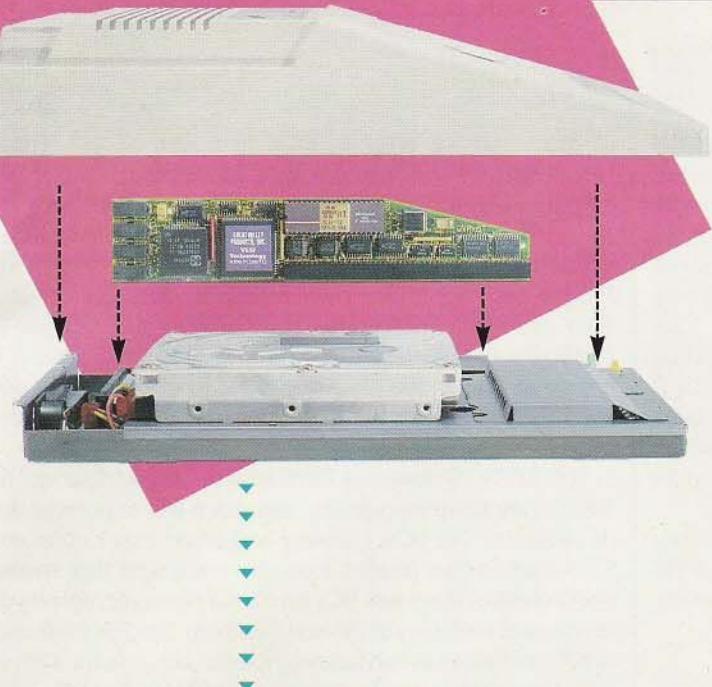
I then read your article in the Jan '92 issue on the Amiga 500 Plus and was disappointed as you were (reading in between the lines) with the lack of at least PC VGA graphics of 8/24 bit colour (ie 256 colours in hi-res out of 16.7 million).

I started looking at the A3000 but at \$4150 with the Commodore 1950 multisync monitor, 42MB HDD and 2MB ram and only 16 colours out of 4096 in hi-res. Not really value for money compared to an Intel 33MHz 40486 chip with all the above PC specs at \$2850 or less.

I use both the Macintosh and PC at work and primarily the PC at TAFE (Microcomputer course at Crows Nest). That Tech is now offering a Multimedia course (Associate Diploma) using the Macintosh (not an Amiga to be seen) and now that NewTek have developed a Video Toaster for the Mac, I think Commodore may have left their run too late. Apple have invested heavily in developing the Mac O/S (up to V7.1) since 1985 and it is very slick and professional in its operation (with built in networking!) compared to the Amiga with WorkBench at V2.04 and no networking capability built in.

continued on page 8

MORE MAGIC FROM GVP



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- Use the A500's floppy drive(s) to read/write MS-DOS floppies.
- Let's your A500 run MS-DOS and

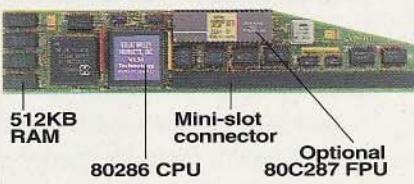
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So... Be Smart, before you buy anyone else's A500™ hard drive or RAM expansion system, ask the question: "Does It Have a Mini-Slot"? Why settle for anything less?

GVP/PC286 MODULE



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If the A2000 had the non flicker video capabilities of the A3000 when introduced in 1988 it would have done better in the commercial arena. I remember that Commodore envisaged the Amiga as a business computer back when they bought it, but from what I have seen, they appeared to have no idea of how to promote and present to this market initially and may have awakened too late.

I am now at the crossroads and so phoned up Commodore Consumer Enquiry who did not even know about the A500 Plus mentioned in ACAR! Unless Commodore announce something more positive in terms of price and performance soon, even if the machine is released mid-year, I may have to abandon ship!

Bernard Toohey
Winmalee, NSW

Ed: The A3000 is now around the \$3,000 mark - however, it is still expensive compared to a 486DX!

... In Education

I would like to make some suggestions about the promotion of Amiga computers. I am a History teacher in a Senior High School. In the school we have two computer laboratories; one

of Macs and the other of PCs. However, in the History Department we have two Amigas that we use extensively not only for standard applications such as word processing and spreadsheet analysis but primarily for digitising and student authoring using *Digi-View*, *D-Paint*, *Deluxe Video* and *Hyperbook*. The Music Department has recently acquired *Bars and Pipes Professional* and is using the Amigas for composition. Geography and Biology are in the process of buying an Icon to use the Amigas with our programmes for making a public record of their excursions. Other departments also have their own projects in the pipeline.

It is fairly obvious that for across-the-curriculum use the Amigas are far more practical and much less expensive than the Macs or the PCs. (Having had some experience with Computer Studies courses I am also convinced that Amigas could outstrip Macs and PCs here too.) However, despite the involvement of many of the best Computer Studies students in our History projects and their obvious enthusiasm for what we have been able to do, the dominance of Macs and PCs in the labs still leads them to think of "graduating" to a Mac or a PC when they upgrade their own computers.

If far more promotion of the Amiga as an across-the-curriculum tool could be achieved this would lead in turn to the establishment of more Amiga labs, so that students would think of upgrading their Amigas rather than of upgrading away from Amigas.

The strongest advantage of the Amiga in education is not so much in its fairly limited educational software, most of which is directed at infants or pre-school level, but in the creative potential that the Amiga has for assisting in the development of a wide spectrum of syllabus aims and objectives in its application software.

If Commodore wants brand identification they must offer more support to education. At the same time, Amiga enthusiasts who are parents of school age children and who want to improve the quality of their children's education ought to be prepared to push the advantages of the Amiga. Schools are increasingly being asked to develop opportunities for parent participation and Computer User Groups are often one of the main forums for such participation.

As you can probably guess, I am fairly committed to the use of computers as across-the-curriculum tools and I tend to belong to the computers in every classroom school rather than to the "put them all in a lab" variety.

A Brown
Mortdale, NSW

Ed: Commodore have always had some kind of commitment to the education market. However, getting through the consultants can be tough.

... At Home

Before I make any suggestions I would like to point out that I have been a devoted user of Amiga since owning an Amiga 1000 in 1986. I have since converted to an Amiga 500.

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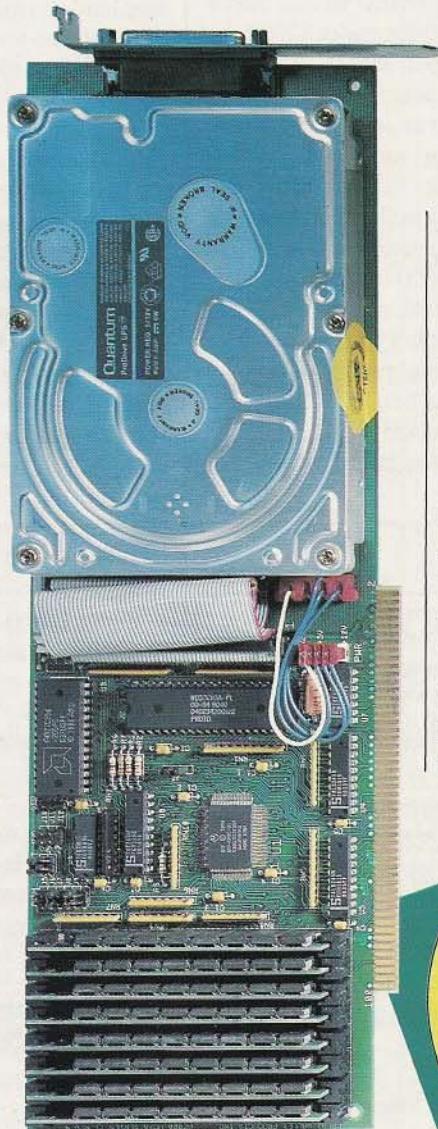
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Firstly I will start by eliminating the 100% games machines such as Nintendo and Sega. So that leaves a buyer who is interested in a home computer, right? Now, one must ask the question - what does a prospective buyer look for in a home computer these days? (especially one that is Amiga illiterate). The answer, a high resolution colour machine with at least a 40 mega hard drive (an absolute must!) for under \$2000.

So when one goes shopping and finds a 386DX IBM clone with VGA graphics and a 40 meg hard drive with at least one meg of RAM running at 25 MHz, all for around \$1800, where the hell is the competition? The answer - nowhere.

You and I know the Amiga is best, try explaining that to a potential buyer who says "... I can get a high res system with a 40 meg drive for \$1800..." when the equivalent in Amiga terms is an Amiga 3000 for around \$4000 (with monitor).

What's that I hear you say? You can't compare a \$4000 Amiga 3000 with a \$1800 PC clone. Ah but you can, consider this ... a \$1800 PC clone has a 32 bit Intel processor running at 25MHz, its equivalent is a Motorola 68030. A \$1800 PC clone has a 640 x 400 screen resolution WITHOUT the interlace flicker, its Amiga equivalent is a multisync monitor

with a flicker fixer. A PC clone almost always has at least a 40 meg hard drive, Amiga equivalent is you can have one for at least an extra \$800 (Amiga 500 and 2000).

So there you have it. If you were to upgrade an Amiga 500 or an Amiga 2000 to have a multisync monitor (\$800), a 40 meg hard drive (\$800), a flicker fixer (\$400 - \$500) and 68030 processor (at least \$700), just to be on par with an \$1800 PC clone in terms of resolution, MegaHertz and hard disk storage; you would have spent an additional \$2800 on top of the original purchase price of an Amiga 500/1000. One comes to the inescapable conclusion that you may as well dispense with the hassle and buy an Amiga 3000 for around the same price.

It saddens me to think that the Amiga has become an expensive machine, (or PC clones have become so cheap, it doesn't matter) and although I am a dedicated Amiga fan I can longer recommend Amiga to a prospective buyer. To me Commodore only has one choice if it's to stay in the race - offer more for less, that is, an Amiga 3000 for around \$2000, or an Amiga 2000 with flicker fixer, faster processor, multisync monitor and hard drive for around \$2000, or an Amiga 500 with flicker fixer, multisync monitor, faster processor, and a nice internal ICD hard drive for around \$2000.

Finally, I would just like to close by saying although Amiga has other features such as multitasking and stereo sound, these features are heavily outweighed by a PC clone with higher res graphics (ie no interlace flicker) and a hard disk and good quality software all for a mere \$1800. The advantages of a cheap PC clone literally blind a prospective home computer buyer to the world of Amiga. Wake up Commodore!, PCs are stealing the home computer market.

T Riffat

St Albans, Vic

Ed: *For some, the decision is that simple. However, we do still recommend Amiga as a home machine, even for those spending around \$2000 - Amiga is more fun, and prices have dropped. The real answer is the next generation of Amigas due this year - see Notepad!*

RAM Icon

Thanks for some great articles in ACAR and for all the help this mag has given me. I am new to computing. I have an Amiga 500, half meg upgrade, Citizen printer and GVP 52Mb H/Drive. Could you please let me know how to change the ram icon that appears when I insert Workbench 1.3.

Roon Mason
Victoria

Ed: *Some releases of Workbench copy a custom disk.info icon to RAM:, whilst others leave the default icon. You can easily create a different icon or alter an existing one by using IconEd in the Tools drawer on your Workbench disk. The easiest way is to load a Disk.info icon off another disk, edit it, then save it on your Workbench disk. Somewhere in your startup-sequence you should copy this file to RAM:.*

There are some far more powerful icon editors in the public domain along with loads of ready to use icons.

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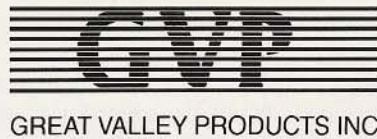
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GVP Slash '030 Price!

Power Peripherals, the Australia distributor of GVP, has announced amazing new pricing on the popular Combo card. A 25Mhz 68030 accelerator with SCSI interface can be purchased for \$799 when you trade in your old SCSI drive controller.

The board includes a slot for the 68882 maths coprocessor and room for up to 16Mb of 32-bit wide RAM.

GVP offer a two year warranty on the unit, which is said to be one of the fastest SCSI interfaces around. The offer is certainly very attractive for owners of older 2090A cards wishing to speed up their machine. Of course, if you're after any serious speed increase, you should also consider adding some 32 bit RAM - at least two megabytes worth.

For more information, contact your nearest GVP dealer or call Power Peripherals on (03) 532 8553.

Major Upgrade to Professional Page

Only a few months after version 2.1 upgrades appeared, which are indeed an improvement in speed over the earlier 2.0, Gold Disk have announced that version 3.0 will ship real soon now. According to press information, this is a major upgrade with enhancements to many aspects of the program's operation along with the addition of many power features requested by end users.

New features include Genies, which make routine tasks automatic. Page creation using the Genie option becomes a simple matter of filling in the blanks on

the Genie requestor and *ProPage* does the rest.

There are also improved links to *Professional Draw* version 3.0 (when it arrives). Long sought after features like drop caps and undo have been added and you can now import assorted wordprocessor formats including *ProWrite*, *Excellence* and *QuickWrite*.

There are also additional fonts, better drawing tools, full Arexx support and improved colour separation algorithms.

Overall, it sounds like the major step up we've all been waiting for.

Version 3.0 should ship within the next couple of months. For more information call Dataflow on (02) 310 2020.

Colour Stripper

M.A.S.T. has released a small box which plugs in between your DigiView and colour camera to remove those messy horizontal interference lines. The improvement is really amazing.

Available from M.A.S.T. (02) 281 7411 for \$39.

Kickboard Plus

With the odd incompatibility with Workbench 2.04 ROMs starting to surface, Unitech Electronics are keeping busy producing the Kickboard, a simple plug in board which enables older ROMs to be installed alongside newer versions. A simple switch lets you swap between Kickstart versions.

The latest version, the Kickboard Plus, allows up to three ROMs to be installed. A typical installation might include 1.3, 2.04 and a spare socket for

a future ROM.

RRP on the unit is \$59.95 - certainly much less expensive than imported alternatives. For more information call Unitech on (02) 820 3555.

14Mhz Budget Accelerator

Kaotic Concepts, a local Amiga developer, have launched a new 14Mhz 68000 Accelerator. Installation is straightforward - just prize out your old 68000 chip and replace it with the Kruncher. According to Kaotic, the increase in speed is immediately apparent, especially when multitasking. A switch enables you to swap between 14Mhz and the standard 7Mhz clock speed without resetting the machine.

For more information call (03) 879 7098. RRP is \$95.

Interesting Trivia

According to Bob Fields of Brights Electronics in Auckland, there have been 40,000 Amigas sold in NZ.

Cleaning out some old files we came across the catalogue for a group called Acme software, with items like this: 20 MB hard drive for A1000 - \$1600, 1Mb Expander II - A1000 autoconfig memory - \$1050 and many more like that!

I remember that my first A1000 cost me \$6000 after buying computer, monitor, printer, software and so on - taking into account \$1000 for the price of the loan over a couple of years. Now you can get an A2000 with a meg of ram and a hard disk for around \$1300.

I was also clearing out some dealer files and they went right back to 1986 - I was amazed by the number of Commodore dealers who have gone out of business - dozens of them. There are few that are still around from those days of '86 and '87, and it has to be conceded that it's a hard business to do well in, with the vagaries of fashion, recession and good old depression washing around and creating turbulence.

On the subject of people going out of business, Free Spirit Software's local distributor has closed after three years of operation.

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DigiFixer \$call

This Australian-made product allows DigiView to be used with colour home video cameras without messy interference.

Video Breakout Box \$89

With S-VHS, RCA and Scart inputs and outputs, this unit allows any video equipment to be connected together.

Flicker Free Video (ICD) \$call

Eliminates flicker on any Amiga. Plugs into Denise socket.

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Saddam Virus

A nasty new virus doing the rounds at the moment is the Saddam Virus. This is a file type strain which hides itself as the Disk-Validator. The disk on which it came was unvalidated so AmigaOS loaded it to try and validate the disk. This causes the virus to run and infect your machine. It does infect a lot of vectors that need fixing when it is found.

You can just wipe it off the disk and put a new Disk-Validator on the disk. It will change the root block BitMap pointer so that if the virus is not running AmigaOS will think the disk is unvalidated and load the virus.

It will also change DATA blocks so DOS does not know them unless the virus is running. When the virus is triggered it will wipe out the whole disk and bring up a Requester telling you it is the SADDAM virus.

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DataREXX - Arexx Database

Said to have all the usual database capabilities, along with RAM caching to speed up data access (since Arexx can be slow, being an interpreted language, rather than compiled). Since it was written in Arexx, this program can be changed at will and tailored to your needs. You can also access it from any other program via Arexx.

RRP is US\$125, from JMH Software, 7200 Hemlock Lane, Maple Grove, MN 55369. Tel: (612) 424 5464.

Use Any Keyboard on any Amiga

KB-Talker, at \$115, is a keyboard adapter which lets you connect any PC/AT type keyboard to your Amiga without any fuss - except that A500 owners need a special adapter cable and slight change to the case.

Dual keymapping is also possible for instant change between BridgeBoard and Amiga.

Available from PRC, (054) 41 6054. IBM keyboards retail for around \$60.

Local Games Programmer Makes Good

Lindsay Whip, a member of CCGP(QLD) user group, has had his game *Time Bomb* accepted for worldwide distribution by Electronic Arts.

Congratulations to Lindsay for hitting the big time, let's hope he makes lots of dough.

Listening Post

Further to news on this we ran a couple of issues back, here is some more advice on where to get it.

This is a user-built electronics interface kit, with software package which decodes radio, facsimile, morse code and radio teletype onto the computer screen. Five hundred kits have been sold so far, at a price of \$73, including p&p.

Amiga-specific software costs \$35.

Info from: High-Tech Tasmania 39 Pillinger Drive Fern Tree, Tas 7054. Tel: (002) 391391.

MIDI Lighting Controller

C-Tech in WA has produced this unit designed to operate lights by interfacing with a MIDI keyboard, sequencer, drum machine or anything with a MIDI interface. You can plug a maximum of 2400W of lighting into the eight outlets on the back of the controller, and lights can be controlled in numerous ways. You could program keyboards or drum machines to respond with particular effects, or write a separate lighting track on your MIDI software and assign it to a free MIDI channel.

For more info, call Tim Collins of C-Tech on (09) 3996761, or write to P O Box 249, Armadale, WA.

CD-I Good, But Needs to be Better

Craig Aurness, former photographer for *National Geographic* and founder of Westlight, said the recently introduced compact disc-interactive (CD-I) is a "hot item" but the visual standards need to be improved for it to catch on.

The Philips CD-I units were released in October for wide scale distribution and are currently being marketed by retail outlets at a retail price of just under US\$800. The lack of clarity in the television display from CD-I is a weak point, though some titles are sharper than others. Slow response of some of the CD-I software is also a problem."

The CD-I industry has to embrace how visually sophisticated the average person is today. Discs must not only have a high level of visual beauty but they must also answer this key question, 'Will it be enough to keep the consumer involved for repeat viewings?' No doubt CDTV could be facing similar problems, however improvements in image quality are rumoured to be on the way.

Portions of Notepad are contributed by Tim Strachan, Editor of Megadisc.

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The next word in wordprocessors?

ProWrite 3.2, WordWorth and the like all have lots of heavyweight features, but they also come with a heavyweight price pushing the \$200 mark and beyond. Somewhat more affordable, and with the plenty of features to boot, is the new Final Copy.

By Barry Caudle

The market for WYSIWYG word processors with quality output and Postscript support has hotted up. New from Softwood Inc is *FinalCopy* with both Outline Fonts and Postscript support. Inside the box is a very clear and well laid out spiral bound 130 plus page manual and three disks. It also sports a very clean Workbench 2.0 look in grey with 3D effect on all gadgets.

Installation

System requirements are a minimum of 1Mb of RAM and two floppy drives or one floppy and a hard drive with 2.5meg of free space. Workbench must be 1.3 (1.3.2 or 1.3.3 preferred) or higher.

The program disk includes Commodore's excellent Amiga Application Installation Utility. This is the best hard disk installation utility I have used and handles new installations and upgrades.

Support is provided for three levels of user; novice, intermediate and expert. The novice level installs the program on a hard disk with no input required from the user. Intermediate and expert levels allow greater interaction, letting you specify such things as on which partition *FinalCopy* is installed. There is online context sensitive help available at all stages of the installation.

A neat feature is the installation log

file of selections made and where the files were installed. Options for this file are: don't make one, write it to disk or direct it to the printer. I used the expert level and it was very easy use. There are no external assigns to be made.

Setting Preferences

FinalCopy has very good preference settings which are clearly described in the excellent manual. There are settings for such things as units, screen resolution, page guides on/off and IFF images as grey scales or colour.

Startup preferences can be set for custom, custom interlace (flicker fixer required), Workbench or ask at startup. The speller and hyphenation preferences allow more memory to be assigned to these functions. If you have enough RAM this will increase the speed of operation of these functions.

ASCII preferences may be set for input/output to control how new-line characters and paragraphs are interpreted.

Page setup has some unique features. The page size is defined and then the print area. This is the actual area your printer will print on the specified page size. The Edit area with its top, bottom, left and right margins are then specified and this should be within the print area. Up to six columns and the gap between

them may also be set. All preference settings may be just used or saved as defaults.

Editing and Formatting a Document

Editing speed is good considering that outline fonts are being used. Once a page has been scrolled through, further scrolling of that page is considerably faster. There are keyboard shortcuts for most menu selections and for quickly moving around the document. A full *Arexx* port is included. Macros for use in the program may be written in *Arexx* and called from the macro menu. It is quick and easy to work on a document since it may be viewed and edited at sizes from 25% to 400%.

Control over page format includes headers, footers, margins, title page and number of columns. Footnotes are not supported.

Paragraphs may be formatted using icons in the ruler or from the layout paragraph menu. Settings include indents, line spacing, justification, tabs, hyphenation enable, and hyphenation hot zone.

Individual paragraphs may have different settings. Settings can be quickly copied to a new paragraph by copying the ruler from a suitable paragraph. Line spacing includes single, 1 1/2, double and variable. The hyphenation hot zone controls from where along a line the program will attempt to hyphenate a word.

Text and fonts are where *FinalCopy* really shines. Included are 29 postscript outline fonts found on most laser printers and four default outline fonts. These fonts are the *Nimbus Q* font technology from "The Company". Standard sizes range from 8 to 72 point but other sizes from 4 to 200 point in one point steps may be used. Leading or line spacing may be defined if the variable option was selected for the paragraph. Text styles available are normal, underline, strike through and double underline.

Text position may be normal, superscript or subscript. Text width may be varied from 50 to 150% from the menu

or another value may be keyed in. An interesting feature is the text case menu option where three options are available. Normally the text is as typed. With Small Caps on, all the letters are capitals and the height is the same as lower case letters. The last is All Caps and it works exactly as its name implies.

Graphics

The insertion of IFF ILBM graphics is another of *FinalCopy's* strong areas. IFF graphics in HAM, Extra Halfbyte and ILBM in up to eight bit planes are supported. Text may be flowed around the left or right hand side of a graphic if its background is set to transparent and it is not a HAM image. Flow distance, the offset of the text from the graphic may be set from 1/8" upwards. The graphic frame may have no border or a border from a hair line up to 12 points wide.

Graphics may be readily dragged around the document and forced to snap to the nearest 1/8" or move only vertically or horizontally. They may be quick sized up or down and snap to size. Constrained sizing where the original proportions are maintained or free siz-

ing using the eight handles on the frame is available.

Cropping of graphics is another easily used option. The text automatically reflows around a graphic if it is moved or inserted after the text has been input. Graphics may be stored in the document, or to reduce file size only the path to where the graphic is stored saved in the document.

Output

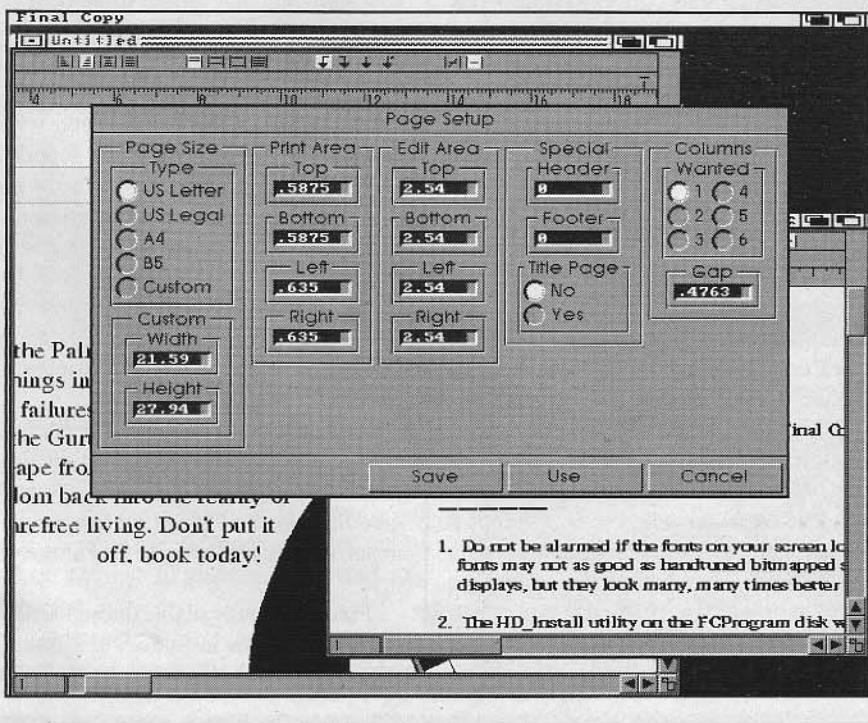
With the incorporation of Outline Fonts and Postscript output the printed result is of the first quality.

The print requester has buttons for Print Final and Print Draft, plus options for copies, page range and preferences. Preference settings include graphic, postscript, draft and settings. Settings defines Paper Feed type, Print Order (front to back or back to front), Collate (all, odd or even pages), Print Final to Graphics Printer, Postscript Printer or Postscript File.

Draft preferences defines the page length, margins, width, pitch, quality (draft or letter) and spacing used by the Draft Print button.

Postscript preferences defines the port

The page setup dialogue box



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the printer is attached to, the shade grey scale or colour and the orientation of the output - tall or wide. Graphic preferences include density settings, grey scale threshold, colour correction, dithering and shades black & white, grey scale or colour.

Selecting the Print Final button on a text only document gave excellent quality on the printed page. Quality of the printing was similar to that using the Outline

fonts in *ProPage 2.0* on the same printer. The graphic printer setup was an Epson LQ-500 at a density setting of 3 (180x180 DPI). A very pleasing feature of the printing was the speed, which is about 50% of the speed of the LQ-500 in letter quality mode. Compared to *FinalCopy*, *Propage*, *Kindwords* and graphic printing from other word processors is positively pedestrian.

Postscript setup and output is well covered in the manual and since I don't have a postscript printer I could not test it directly. For best quality the manual recommends you use only the 29 postscript fonts. Output of a postscript file is very easy by changing the settings preferences to Postscript File. Click on the Print Final button and you are prompted with an output file name which can be accepted or changed.

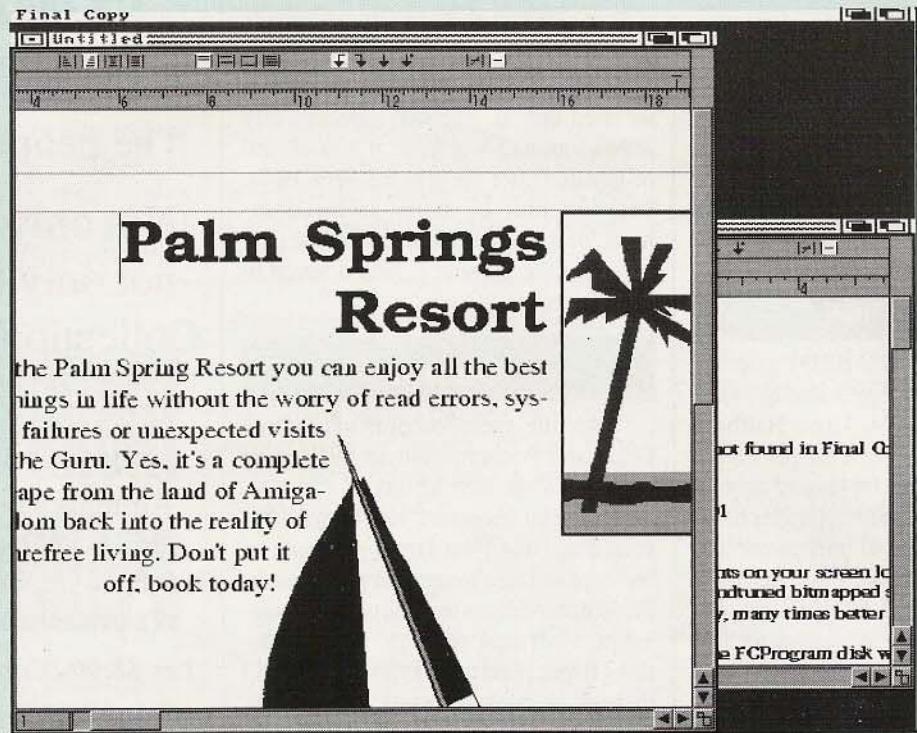
Other Features

FinalCopy has three files in its FCLibs directory; fcpenpal.library, fcpwrite.library and fcwordperfect.library. There is no mention of these files in the manual or readme file. I loaded an old *Prowrite* file in *FinalCopy* with only a couple of

funny tab errors so I assume the other two file types would load as well. This is far better than having to go via the ASCII route and lose all the formatting on the imported documents.

FinalCopy contains the Proximity Technology Inc spelling checker, thesaurus and hyphenation system. The version I reviewed had the Merriam-Webster US English version although a Collins UK English is available; both include the Merriam-Webster legal supplement. Single words may be highlighted and spell checked or the document checked. A good feature is the document is checked from the position of the cursor to the bottom and then a requester asks if you want to, it will wrap around to the top of the document and continue. One of the neat features when you add words to the user dictionary is if the word contains caps you are prompted if you want it stored exactly as typed.

The thesaurus tells you if a word is a noun and so on, and then gives its meaning before listing the synonyms for that meaning. If there is more than one meaning there will be more than one listing of synonyms.



The text wrap facility has no problems with odd shaped objects

The hyphenation system is excellent with good control. It must be turned on for the whole document to be used but individual paragraphs may have it turned on or off.

Document statistics are available to keep track of words, pages and other information.

There are three tooltypes which may be added to *FinalCopy*'s icon to set default paths.

These are the default document, graphic and fonts drawers. This saves time when loading and saving files or if your fonts are not in their default drawer.

Conclusions

FinalCopy has good functionality and features such as variable text width which were once only found in Desktop Publishing programs. It sets a new standard for output quality and speed with Outline Fonts and Postscript support. Multiple column support combined with easy graphics manipulation and automatic text flow around if the graphic is moved or another inserted is especially handy. The Outline Fonts overcome the old WYSIWYG problems of having to fiddle with font sizes and line spacing to correctly fill a page.

A clear easy to understand manual and good spell checker and thesaurus are further plus points. *FinalCopy* will give the top end Amiga word processing programs a hurry up to stay ahead of it.

FinalCopy is available through Computer Spot stores in Sydney for around \$189.00. □

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Action Replay III - An Essential Power Tool

An essential tool for exploring and conquering games, breaking into machine language programming or just having fun. The Action Replay cartridge has a lot to offer as Andrew Farrell explains.

Although designed for the more advanced user, the Action Replay cartridge is also an ideal tool for beginner who has decided its time to do some exploring or tinkering with the Amiga.

In one handy plug in add-on is a collection of tools which range from the ability to grab graphics and music from games, slow down game speed and even grant yourself additional lives during game play, to accessing the world of assembly language programming.

The original idea of the cartridge was purely to copy software. Instead of trying to duplicate the original disk, the Action Replay takes a snap-shot of the Amiga's memory when the program is running.

The cartridge first attempts to do away with those parts of the memory image the program is not using. The resulting hunk is then compressed and you can save it to disk.

This file is a mirror image of what the Amiga's important internal memory registers contained, along with the necessary program code and graphics or music which were in memory, at the time you pushed the snap shot button on the cartridge. The whole process is a bit like taking a photo, only those bits you don't want are left right out of the picture.

By loading the file back into memory, the Amiga is suddenly restored to the exact situation when you hit the button. Using a little programming trickery, the cartridge is able to sort how to run the game you have snapped and you can begin playing as if you loaded it from the original disk.

This works well with the majority of simpler games. Those which load additional portions of scenery or other data from disk are a little more tricky.

Of course, passing on copies of the resulting snap-shotted program to friends is illegal and unethical. It's also very easy to do thanks to this cartridge. So, its a bonus for pirates. On the other hand, if you've paid good money for an original copy of a top game, why risk losing your only disk to a coffee spill or some other

misfortune, when you can make a backup copy using this cartridge?

Installation

On the side of your Amiga 500 is an expansion port for connecting special things like hard drives, scanners, drawing tablets and extra memory. Because so many of the vital connections to the inside of the Amiga are accessible through this port, this is where the Action Replay connects. An internal version is available for the Amiga 2000.

On top of the cartridge are two small lights or LEDs (Light Emitting Diodes). One indicates you have power and the other, the Slomo indicator, is for game players. If you've ever found yourself buried in one of the more hectic moments of a game like SWIV, which is a fast and furious shoot 'em up at the best of times, the Slomo button is what you need.

When switched on, the Amiga slows down to a speed which can be set using a small knob. If you still can't crack the game, Action Replay offers you the chance to disable collisions between various objects on the screen or to extend the number of chances you have in the game. To access these options you need to press the freeze button.



Ready For Action

At this point you can do all sorts of marvelous things. The game you're looking at stops and you're now in the Action Replay's command screen. If you can't remember what the right commands are, press the help key and a list will appear. It's a shame they didn't opt for a simple menu system. However, the help information is very good and you can virtually do without the manual if you have any experience with this sort of thing.

Here at *Commodore Review*, we use the freeze button to capture pictures from games you see reviewed in the entertainment section. Phil Campbell waits until it looks like he's actually mastered the game, presses the freeze button and then hits the P key to view what the picture looks like that he just froze. If it is moderately impressive, the action shot is saved to disk as an IFF file which you can easily load into any paint program. Music and sounds can be captured in a similar fashion.

These functions are not bullet proof. Sometimes the screens are just too complex for the cartridge to grab accurately.

You can also capture *Soundtracker* music files. For example, we successfully captured the music from the game *SWIV*. Using the public domain program *Intuitracker* I can now enjoy the upbeat tempo of the *SWIV* theme whilst I'm bashing in this article.

Delving Deeper

Seasoned hackers will find Datel's Action Replay a dream. It sticks to the usual jargon found on bulletin boards, or in scroll messages at the bottom of demos. If you're not familiar with terms like Freezer, Trainer, Ripper or number systems like HEX or binary, then you could find the going a little heavy. Don't be put off, the results are worth the trouble of learning what all these odd terms mean.

The manual is no help at all, but your local Amiga club, Bulletin Board or

friendly computer shop may be able to.

The other odd part about the documentation is the fact it seems to hide some of the Action Replay's capabilities by purposefully referring to simple functions by obscure and confusing names. No doubt this is partially due to the heavyweight laws in the UK, the home of Datel products, on the issue of copyright, program backups and the like.

In Australia things are just as tough but the law on copy programs is still fairly open.

By reading between the lines it soon becomes obvious that this is indeed a powerful copying tool, for both backing up disks directly, be they Atari, MS-DOS or Amiga, and for snap-shutting programs running in memory as described previously. In fact, Action Replay has such a strong range of functions that you could virtually use it instead of *Workbench* or a disk utility like *DiskMaster*.

Apart from more run of the mill file management tasks like formatting disks

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and copying files, the cartridge also provides commands for handling boot blocks, switching from PAL to NTSC, testing for viruses, disabling that annoying drive click and booting from any floppy drive. These are just a few of many at first obscure functions, which the more you tinker with your Amiga you will find a use for.

Game Trainers

Pirated copies of software have often been tampered with. Normally some section of program code must be altered to make the illegal copy of the program run. At the same time, many of these so-called crackers locate where the program keeps track of the number of chances you have left when playing.

By changing the program slightly, it is often possible to make it so that you can simply play continuously without being blown up, killed, shot-down or destroyed. Instead, your invincible ship or man is able to march on to higher levels of difficulty. This certainly makes the challenge far less exciting, however it can help if you're frustrated with the game and just want to see what the rest of the scenery looks like.

Games which have had copy protection routines removed are called cracked copies and if the aforementioned change to the lives counter has been made, then they are also said to have a trainer mode or to have been trained.

Without an understanding of 68000 assembly language, it is unlikely you'll ever be able to perform either of the above two operations yourself. It is for this reason that hackers, crackers and demo coders are strangely respected. They have an undeniable talent for programming, it's just a shame they don't put it to better use in some instances.

The Action Replay cartridge would certainly make it easy for somebody hacking into a game to change it in some way. In fact, there is a special group of commands for training games.

When you begin playing a game, the program will first reset various counters to some predetermined value. As you progress through the game, these counters, which are often just a single

memory location, change to reflect your current situation or position in the game.

One such counter is the number of chances or lives remaining. By trying to locate changes to a memory location, normally a decrease of one value after you've lost a life, it is possible to grant yourself additional lives or disable the part of the program which is modifying this counter. The manual explains this section quite well and several methods are offered to help locate and disable the right program section. Although this process can be automatic, knowledge of hex will help you more accurately find the right memory location.

Many of Action Replay's commands accept hexadecimal numbers, or require them, to work properly.

Getting to the Bottom of this Hex Business

Normally, we count using ten digits, the numbers zero to nine. These ten digits form the basis of our decimal number system. Each additional column of digits we add to our number goes up by a power of ten. For example the number 482 can be expressed as:

$$\begin{array}{rcl} 4 \times 10 \text{ to the power of } 2 & = & 400 \\ 8 \times 10 \text{ to the power of } 1 & = & 80 \\ 2 \times 10 \text{ to the power of } 0 & = & 2 \\ \hline & & 482 \end{array}$$

Since 10 to the power of two is 100, four times this value is 400. And so on.

This is a good number system, however when working with large number it can get rather cumbersome. Decimal does not relate well to the way computers work, since computers do not have the benefit of having ten digits. In fact they have only two - zero and one. This number system is called binary. With this system, each column of digits goes up by a power of two. With two digits a number such as 10110111 would be:

$$\begin{array}{rcl} 1 \times 2 \text{ to the power of } 7 & = & 128 \\ 1 \times 2 \text{ to the power of } 5 & = & 64 \\ 1 \times 2 \text{ to the power of } 4 & = & 32 \\ 1 \times 2 \text{ to the power of } 2 & = & 4 \\ 1 \times 2 \text{ to the power of } 1 & = & 2 \\ 1 \times 2 \text{ to the power of } 0 & = & 1 \\ \hline & & \end{array}$$

Certainly a very awkward number system! However binary was invented because it fits in with the computer's basic building block, the transistor. These tiny electrical components can be used as an amplifier or in a slightly different form can be a simple switch which is either off or on. These offs and ons are viewed as zeros and ones in the binary number system. By grouping several transistors together - for example eight in our above example - the computer is able to store large numbers.

The Amiga groups these transistors in 16 or 32, depending on which model you have and whereabouts in the flow of information around the machine you're looking. These offs and ons are referred to as bits, so a 16 bit computer works with 16 offs and ons at one time.

If you were to look at the contents of memory and see only strings of zeros and ones, understanding the real value of what you were seeing would be very difficult. The other problem is you could only fit a small number of memory locations on screen at one time, as the 0's and 1's would take up a lot of screen space. The solution is the hexadecimal number system (or hex for short) and a little help from another friend, ASCII.

Hex is a beefy sixteen digit number system. Instead of binary's rather clumsy two digits or decimal's more manageable ten, hex uses sixteen possible digits to create a number. So we are now working in base sixteen and each column goes up by a power of sixteen. The useful part of all this is that sixteen is a multiple of eight, which is the most basic way binary is grouped in your computer.

Using hex, a number up to 256 can be expressed with only two digits. These digits are the numbers zero to nine and the letters A to F. So the decimal number 256 is equivalent to hexadecimal FF. By being able to express large numbers in less space, we can view more on screen at one time. Furthermore, hex is easy to translate from binary, since each four bit group corresponds nicely to one hex digit.

Really big numbers, like 65536 can be expressed simply: FFFF in this case, which is binary 2 to the power of 16,

which looks like this: 1111111111111111.

The bottom line here is that assembly language programmers use hex all the time, so you'll see it popping up in utilities written firstly for these hacker type people and secondly for the average Amiga user. Hex is worth understanding if you plan on delving deeper into the world of programming and the Action Replay cartridge is certainly a very good start. If you get tired of converting between number systems, there are many handy pop-up calculators which offer conversion between these three number systems.

Having Some Fun with ASCII

To make these numbers even more useful, a system of storing the letters of the alphabet, along with other important characters was devised. This code for storing characters is called ASCII, where each character is granted a particular value. So, when you look at a hunk of memory in the Action Replay cartridge, you can also view what you're seeing as characters.

Most of the time what you will see will be a lot of gibberish. However, sometimes you might stumble across some text which is stored in memory. The Action Replay also lets you view the contents of disk as if it were in memory. Here is where the fun starts.

By searching through your *Workbench* disk, or any other disk, you will eventually find ASCII characters, or text, which

make sense. It may be a message which you have seen before like "Disk Write Protected" or "Please Insert Volume". When you find this text in memory or disk, you can alter it to something fun, and save the result. Daniel Rutter, a regular ACAR contributor, prides himself on being the owner of a modified *Workbench* which contains a rather demented but humorous group of altered system messages.

Action Replay offers plenty of scope for creating your own such fun as well as peeking into your favourite games for hidden clues - especially adventure programs.

Conclusions

Although we've only touched on a few of the many powerful features of this amazing cartridge, I'm sure you can already see some of the uses this device could be put to.

Overall, the Action Replay III is a considerable improvement over earlier versions. Although the manual is not to be taken lightly, once tackled, the cartridge's many talents will come to light, proving it to be a functional, but not so easy to use method of exploring many aspects of your Amiga.

Serious programmers, hackers, and gamers should consider the Action Replay as a must have device. Nothing touches this baby for sheer hacking power in one box.

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Tutorial

Deluxe Paint Video Titles

So you have an Amiga, a video camera and a genlock. Here's a quick way to produce video titles using Deluxe Paint, by Joel Mielle of Video Impressions.

In your disk collection somewhere sits a copy of *Deluxe Paint*, usually (in my case) the disk with the dirty worn out label. Now you don't have a titling program and you don't really feel like investing \$300 or more for good titling software. Relax, with *Deluxe Paint* you have all you need for most jobs.

A good start is to establish a reasonable library of large fonts. Be careful with what you buy as most fonts are designed for desktop publishing, hence are too small for video use.

(Some font collections, like Gold Disk's Compugraphic font sets, include conversion programs to create bitmap versions in any point size. These are ideal for video use. - Ed.)

Catalogue Your Fonts

Load *Deluxe Paint*, select two colours, medium resolution overscan mode. Select the font icon with the right mouse button to load up the font directory and

load the first font in the largest point size available. On a black background screen, select the white colour and type in on the top left hand corner the name of the font. Make sure you only use the largest font as they can always be shrunk down without too much loss of quality. Small fonts do not enlarge too well.

Now go through the remainder of the fonts until you have all your fonts in your fonts directory typed on that same page. You may need more than one page to fit all your fonts in. If so, create a small animation segment, depending on the number of windows you require, and save it as an anim. file.

This way you can flick through all the pages and view your entire font directory by pressing the "1" and "2" keys to flip through the pages.

One more hint, only type on the flush left hand side of the page, that way when you add fonts to your library you will still have room on all your pages to update the new fonts.

Creating A Title

Okay, now we're ready to rock 'n roll. Start with a large font, around 60 points. Now select the colour yellow from the palette and type in your title. You should now have a yellow font over a black background.

Now press the letter "p" for palette.

Select the black colour and with the slider controls, slide the "v" slider until the background becomes grey.

Now copy the colour grey to any other colour on the palette, select that colour and with the "v" slider in reverse darken the grey just a little. Now select an unused colour from the palette and once again slide the "v" control until that colour becomes totally black.

Now hit the "b" key and with the right mouse button pickup the whole title. Select the black colour from the palette and press the letter "o" twice on the keyboard. Press the letter "v" and position the title on the screen, hit the left mouse button and drag the title just a little in any direction, release button and voila, a title!

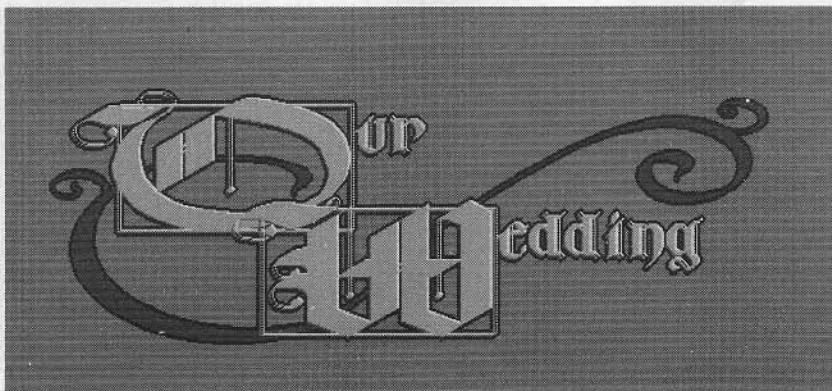


Drop Shadows

Now let's add another dimension to it. Hit the "b" key again and with the right mouse button pick up the whole title, make sure that your background colour is selected, now select the darker grey colour with the right mouse button and position the title approx 1 cm to the right and hit the right button, now position the title back 1 cm to the left and hit the left

button and presto, a drop shadow!

When creating titles it is very important to use colours without too much saturation as once on video tape they will bleed especially with cheaper genlocks. (Composite video cannot hold colour levels above RGB levels of 12 on the sliders.) It is also ideal to always put a black border around coloured fonts to retain the colour hence avoiding colour bleed.



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Book Reviews

by Daniel Rutter

Here are a couple of quick reviews of two books published by the well known Abacus group, which to Amiga aficionados signals rock-solid reliability on the one hand, and reams of data to wade through on the other.

Abacus tend to produce giant overview reference books, brilliant for dipping but generally containing about twice as much stuff as any one user would ever need - but it's nice to know it's there.

Making Music

The first of the two books is called *Making Music on the Amiga*, and covers in considerable detail the basics of sound

generation and the terminology involved, along with similar grass-roots information on music theory to get even the rank amateur up to speed for the rest of the book (all this stuff, the first two chapters, takes up 23 of the book's 250 pages).

Next comes a brief chapter on programming for audio, covering Amiga and GFA Basic, C and assembler; its brevity is understandable, since all the heavy technical stuff is covered perfectly well in the language manuals.

Chapter 4 covers the IFF&SVX (sample) and SMUS (score) formats, giving details of all the different chunks and their meanings. Chapter 5 looks at commercial music software and chapter 7 public domain alternatives.

The commercial programs are *Sonix*, *AudioMaster II* (now superseded by *Audio Engineer II*), the now defunct *Dynamic Drums* and the venerable *Deluxe Music Construction Set*. The only PD composition program covered is *MED* (mention is also given to *MakeSounds*, a *MED* accessory program of which I have never heard, the elderly *Perfect Sound* editor which was distributed as a "tryware" type deal but has now been overshadowed by many much more spectacular PD efforts like *TechnoSound* and some "jukebox" disks which are now four years old and of extremely little interest).

The data for the commercial programs is copious and accurate, but the only ones you can actually go out and buy nowadays are *Sonix* and *DMCS*, and a lot of the stuff is covered perfectly well, if not so succinctly, in the programs' own manuals.

The information on *MED* is badly out of date, as it refers to the 1987 V1.12 of the program, which at last count had hit V3.11b. The current version is astonishingly good for PD (pretty darn amazing even if it were commercial) and can be

obtained from your local PD supplier. I don't believe there's anything about the program you could wish to know that isn't covered in the included manual files. Overall, this software cover is more or less just a boon to those who have mislaid their manuals.

Chapter 6 deals with hardware related to music, and contains instructions and schematics for building from scratch a MIDI interface and audio digitiser, along with information on software configuration and compatibility and more stuff concerning *DMCS* and *Sonix*'s behaviour under MIDI.

Making Music On The Amiga also contains a glossary, two further appendices listing MIDI codes and giving information on MIDI sequencers, an index, much gratuitous advertising for other Abacus books, and a non-bootable disk containing source code, samples and other bits and bobs pertaining to the book (plus a deeply tedious 200K animation doing nothing but display the covers of more books by, you guessed it, Abacus).

More Tricks and Tips

The other book, *More Tricks and Tips for the Amiga*, is (wait for it, wait for it...) a sequel. It, like the other book, is 1989, so WB2.x is out of the question - although it contains not a little useful stuff about the then new WB1.3. There are all sorts of odds and sods for everyone from reasonably accomplished programmers, through the fairly competent CLI user to the rank amateur point-and-click Neanderthal.

It's a motley collection including CLI, AmigaBASIC, printers, windows, gadgets, programs, libraries, machine language, viruses, 68xxx's, the PIPE: device, FFS, graphic dumps, WB personalisation, error messages, escape codes/sequences, guru codes.

Not the most up-to-date book I've perused, but interesting nonetheless. It's not awe-inspiringly useful to the expert, but for most people it'd make a useful addition to the library.

Both books are distributed by Pactronics (02) 748 4700. RRP \$49.95. Check your local Amiga dealer for supply.

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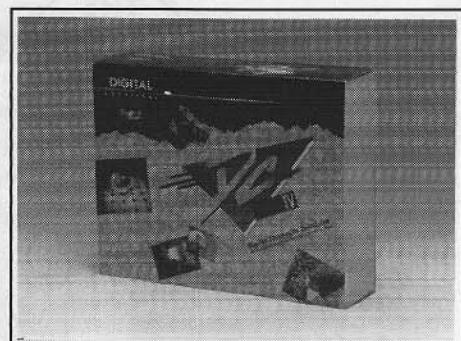
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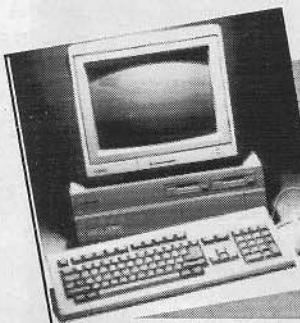
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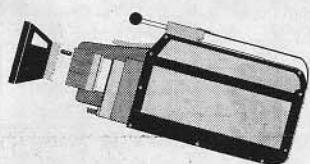
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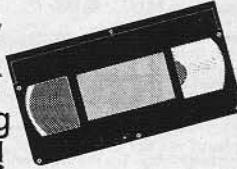
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Readers, customers, critics.

Confusion clearing time.. About the 'Latest and Greatest' section. I put in those games that I think are great. As you can see, the games are not necessarily released at the time of writing, but I hope will be by the time the magazine is published. I also try not to list games I have not seen. Naturally, it's not possible to see every game on the market, so on rare occasions, go by overseas mag's and other peoples opinions. I'll admit that I've been caught out once or twice, but, I only do it on RARE occasions. If you want my opinion of any game, call me!

Time to tell you what I consider will be THE hits of 1992.

EPIC - No I haven't played it yet, but I talked to someone who has! From his description it is HUGE! **Microprose Formula One Grand Prix**- Wow! - Mal

Care of Your Amiga: Part II

by Kevan Fitzakerley

In part one of CompuCare, we took a general overview of the initial setting up of your computer system and some of the problems that could arise during this period. And particular attention was paid to software.

In part two and the parts of CompuCare that follow we will take a much deeper look into the operations and suggestions will be made for you to conduct your computer maintenance program.

Reference will be made from time to time to items that have been previously mentioned, as a review of the items that are being explained. To effectively perform a troubleshooting and preventive maintenance program, you need a general working knowledge of the main parts of your system, in other words, whatever components of computer hardware that you own, you need to fully understand how each part functions.

For you to learn this, the instruction manual that comes with each piece of hardware needs to be read and it is a good idea to keep these manuals close by at all times so that you can refer to them when needed. Doing this will give you a better understanding of what is likely to go wrong.

Electronic Failures

Of all the problems that you may have with your system, electronic failures are the least likely to happen. In the event of an electronic failure, it is best left to a suitably trained computer repair technician. With most computers that are made today, a technician would isolate the failure to a certain group of components, like a circuit board. In these cases the board is usually replaced and the defective board is returned to the manufacturer for repair.

Here is a list of items that can cause your computer system problems.

- High-voltage power surges
- Rapid power fluctuations
- Static electricity discharges
- Strong magnetic fields
- Overheating
- Computer abuse

All of these can weaken or destroy sensitive electronic components, so you can see why it is important to keep your systems from these influences as much as possible.

Most people at some stage have experienced power blackouts, either unexpected or intentional. Unfortunately these are a part of life that we all have to learn to live with. A sudden power-cut while you are working on your computer will erase everything in RAM and can at times destroy whatever is in ROM, your computer's permanent memory storage, all of which means added work for you.

Power disturbances of the serious kind are rare, but if you live in an area where you experience regular power disruption, you can safeguard your system with various protection devices, which range from a few dollars to as much as you care to spend.

Apart from the electricity that supplies our homes and its contents with power, there is another type of electricity that you may have experienced at some stage; it is the least predictable, and also the least controllable area of computer malfunctions, and it is known as static electricity.

Static electricity can be generated as you walk across the carpet to your computer, discharging a static spark to the computer can wipe out your data and also destroy an integrated circuit chip.

Another area of concern is magnetic

fields. A telephone too near your computer could cause things to go wrong, this could very well happen because the electronics in your computer can act as a receiver for the transmitted signals. The best way to safeguard against these disruptions is to keep all items that are not needed well away from your computer.

You can reduce the possibility of static shock to your computer by removing the carpet from around the immediate area that your computer is stationed or by installing a special anti-static mat, which you should be able to buy from various stores.

Computer Abuse

Each part of your computer system requires you, the operator, to use it for the purpose it was designed to do. That is, the Amiga will only perform the things that you instruct it for. How many people do you know who are guilty of Computer Abuse? Before you start thinking of anyone, take a look at yourself! That person could be you.

How many times have you hit the keyboard with your fist when something you are trying to do won't return the results that you expect? Taking your frustrations out on the keyboard will not fix the problem, in fact you can be sure with enough pounding, frequent trips to the service agent could be in order.

The point I am trying to put across is, that there are various different forms of Computer Abuse or negligence and if your system is a new purchase you could void your warranty, which means you would have to pay for any repairs and parts if found that the machine has been damaged by physical abuse.

(Another common form of abuse is connecting printers and other peripherals - including monitors - whilst the Amiga is switched on. Although all may appear well, you may have shorted out a pin and blown one of the solid state fuses on the circuit board. These can only be replaced by a competent soldering type person. The problem may not surface until you connect something to the port which draws power from the Amiga - Ed.)

Maintenance

In the manual that comes with your computer you will find a section that gives some brief details on caring for your system and these details are very brief indeed, but you should read them anyway. Apart from the items listed there many other things that you can do to keep your Amiga in top operating order.

Here is a list of things that you can do to help prevent problems. While they are not guaranteed to stop problems from happening, they will reduce them to a minimum. By performing what is suggested, you will reduce the chances of problems occurring. This is the first stage of your preventive maintenance program.

As the keyboard is exposed to the various elements of dust, heat, smoke etc, it needs to be cleaned on a regular basis. If you are in the habit of moving the machine around to a different location, you should perform the following procedures weekly:

(1) Vacuum the keyboard and grooved parts of the Amiga with a vacuum cleaner. (Alternatively you could use an ordinary house-hold vacuum cleaner with the brush attachment)

(2) Use a cloth treated with a dust attractant to wipe the case.

(3) Check that all connections are secure, and keep leads tidy.

(4) Check power cords to ensure that they are not kinked or twisted (leads like this can short out and damage the computer)

(5) Keep all unnecessary objects away from your computer. (Allow ample "breathing space")

(6) Keep all vents clear. (The components in the computer generate heat and these vents are designed to eliminate excessive heat build up.)

(7) Keep static discharge to a minimum, just walking across a carpeted room can create static electricity, so you need to "ground" yourself before touching the keyboard. This can generally be achieved by touching a substantial metal object. An alternative is to purchase an anti-static treatment (like Minstat)

Storage

During the periods when you are not using the computer, you can reduce the build up of dust etc. by keeping it covered with a suitable cover. There are covers specifically designed for the Amiga for this purpose which you could purchase from a computer dealer, but if looks are unimportant a cotton table cloth would do the same job.

NOTE: All that has been mentioned so far are the things that I personally carry out on a regular basis, but if there are parts you feel uncomfortable with, your local service agent could perform the service for you at a nominal charge.

Letters

Hard Drive Dilemma

I am an owner of an Amiga 500 computer who is looking at the prospect of installing a hard disk drive but I am rather daunted by the price of such a device. What I am after is some "inside information" on the best way of obtaining one at the right price.

I have an AT once board fitted and so I'll need to be able to partition the drive to cope with programs/files in both Amiga and IBM modes of operation. With this in mind, I believe I will need a drive with 40 - 50 Mb capacity, 40 being the absolute minimum.

Looking at the price difference of IBM hard drives compared to that of the Amiga, makes you wonder what is so special about the Amiga drive to justify the price. People have told me that it is possible to fit an IBM drive to the Amiga by using a SCSI interface (which I have very little knowledge of). If this is true, what would be the price of such a modification and what would the compatibility and reliability be like?

Would it be more wise to forget this idea and look into buying a drive made specifically for the Amiga? Any advice and prices of anything to do with the above mentioned will be gratefully received as I am anxious to get things moving.

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Malcolm Carlsen
Acacia Ridge, Qld

Ed: *The price difference is not between the drives, it is the SCSI interface which is expensive. Most include room for RAM, and on the A500 where they are externally fitted, include housing, power supply and so on. You may be able to save some money by buying an interface from one retailer and then shopping around for the drive.*

Vapourware Warning

I wish to bring to notice and place on file regarding one of your advertisers that may be "VAPOURWARE"!

I posted off a order and cheque to Andrew McLeary of PO Box 657, Frankston 3199 for the first issue of the new Amig-disk by Sporran Systems Inc. for \$8.00 as advertised in ACAR 13 (Sept 1991).

By the 20th of December I wrote to Andrew McLeary again asking him for the reason of delay, BUT the letter was returned as "LEFT ADDRESS"!

Thought you may be interested and warn others if in fact he is no longer in business.

W George Francis
Morwell, Vic

Ed: Thanks for the info. □

AMOS Column

Part 3

by Wayne Johnson

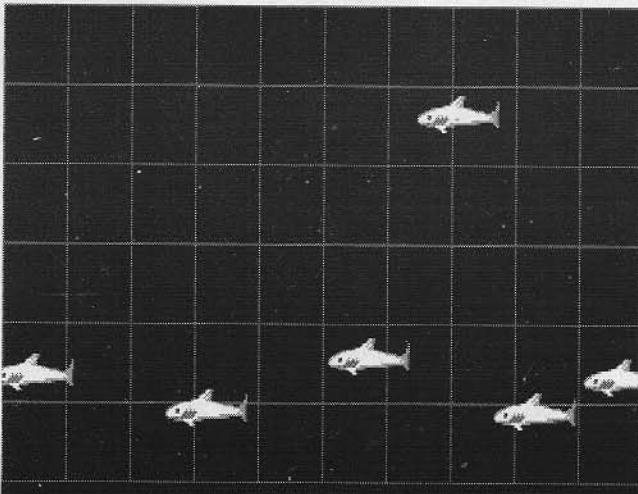
AMAL Programming

Do you remember reading how it was possible to write a game or demo in around 90% AMAL code? Many were impressed when hearing that, but after getting into the many commands of AMOS, the AMAL system became something of a gimmick to be used only every now and then to move a BOB or two. However, that claim of a 90% AMAL game/demo/educational package is quite realistic.

Depending on what your program actually does, most of your code can be written in AMAL and AMOS can pick up what's left over.

AMAL is the only way within AMOS to move many objects and screens around with the guarantee of totally jitter free animation. The key here is to understand about the frame rate of a video display.

If you want to have a lot of action happening on the screen with no glitching or jerking, then you must obey a few programming rules to allow all changes to the screen to occur in the Vertical Blanking Period. A one frame per screen update rate simply means that the program makes all of the changes to a screen during time when the raster beam on your monitor moves from drawing the last line on the screen back to the start of the first line. This is known as the Vertical Blanking Period. Sometimes it's just not possible to write code which keeps up with the Raster Beam, which refreshes the screen some 50 times per second. Therefore the program must wait till the beam reaches another VBL to finish its changes.



You see updated action at half the rate. This produces a lower quality look to objects moving on the screen. Owners of the game *Xenon II* will notice the three frame delay on the main ship. This is due to the Assembly coders writing complex background routines and it leaves a flickery, ghosting effect behind the ship.

The second problem with single frame dependant programs is when the frame rate drops from one to two. This causes the on-screen action to glitch rather than staying consistently smooth. These two effects are very annoying when watching a demo or playing a game.

Solutions

So how do we combat these problems? Firstly we can decide beforehand what objects and effects we can use that won't alter the frame rate. Anything hardware controlled is our first priority. These two things are SPRITES and Hardware Scrolling.

Although they are graphics operations, they are performed quickly and easily by the processor rather than stressing the Blitter. For effects, we can use Rainbows, Colour Flashing, Colour Cycling and Music. These effects are good to use because they run under interrupt and also do not inhibit the Blitter. From these objects and effects, a lot can be produced alone. Now we can concentrate on placing small Bobs, Blitter operations and AMOS processing that won't slow down our frame rate.

Getting your frame refresh rate sorted out is very important. It makes your programs look so much more professional and commercially viable. They are easier to look at. Jumping straight in and expecting 50 32 x 32 Bobs with 16 colours to snake around the screen at one frame per refresh with three scrolls along the bottom is just not on. Just because the Assembler big boys do it, doesn't mean you can emulate straight machine code techniques.

But using AMAL and a bit of smart thinking, will allow you to produce some fairly impressive results.

One last thing; don't ever rely on the compiler to pump up the frame rate. The compiler, while it is a very good piece of software, is used to turn your AMOS code into stand alone programs while increasing command execution and processing. It will NOT significantly increase the speed of graphics changes on the screen.

However, there are techniques used in demos to make it seem like there are hundreds of Bobs on the screen at once. That technique is explained as follows.

Page Flipping

Having a snake of Bobs appear onto the screen and have their number constantly increase without slowing down the machine can be achieved by a clever little technique called page flipping. This is used in demos like the AMOS Demo II and the Bob Maniacs DEMO.

Page Flipping can be best shown by the illustrations below:
In figure 1 you see an image of some fish. By creating several more images like it with the fish in slightly different positions, we can flip along between these pre-rendered to create animation. By changing the contents of the screens on the fly it is possible to create the illusion of more and more objects joining in this giant animation. The following program illustrates this idea:

```
*****  
' FLIPPING ROUTINE BY SAUSAGE  
*****  
'Load "extras:sprite_600/water/shark.abk"  
NSC=5 : Rem number of frames  
SPEED=1 : Rem number of frames to wait  
For A=0 To NSC-1 : Screen Open A,320,200,16,Lowres  
Flash Off : Curs Off : Cls 0  
Get Sprite Palette  
Next A  
FRAME=0  
Do  
Screen To Front FRAME : Screen FRAME  
If Mouse Key=1 Then Paste Bob X Screen(X Mouse),Y Screen(Y Mouse),1  
FRAME=FRAME+1  
If FRAME>NSC-1 Then FRAME=0  
For W=1 To SPEED : Wait Vbl : Next W  
Loop
```

News

The Music extension has been updated. Unfortunately, it still doesn't perform exactly as it is supposed to. It now attempts to emulate the soundtracker 'A' command. Having only received it yesterday, I will be giving it a complete run down by next issue.

AMOS is still being used consistently to produce commercial titles. The latest offering are the three age groups of *Funschool 4* on the Amiga.

Next Month

The most frequent question I get asked is, how do I go about writing a game? This is obviously a wide sort of question, but we will be starting next month, to go through the steps of writing a smooth, simple shoot-em-up.

No ten liners this month. Don't forget that you can also submit ten line games to this address:

Ten Liners
24/459 The Boulevard
Kirrawee NSW 2232.

If anyone has any questions regarding AMOS, I can be contacted on the Predators BBS - (02) 604 6644 or The Blade BBS - (02) 957 3050 under the handle of SAUSAGE.

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PD and Demos Update

by Glenn Bussell

Welcome once again to the wonderful world of demos. This month sees the review of one of the hottest Aussie mega-demos ever and the introduction of a demo of the month award, so read on.

Wall Update

Those of you who read last month's column would have read about the incredible *Pink Floyd the Wall* demo. If the requirement of six disks, a meg of memory and two drives puts you off then you will probably be pleased to hear that there is another Pink Floyd demo of rather smaller proportions. This demo will run on an unexpanded Amiga 500. Although obviously not as large or detailed, it does feature what most people

want from a Pink Floyd demo, a lengthy sample of their classic song *The Wall*.

Iraq Demo

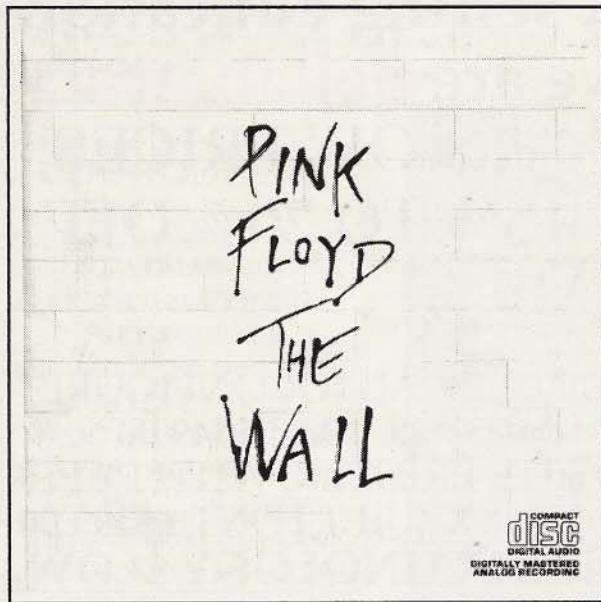
Next up is the *Iraq Demo* from the Animators. Obviously inspired by the Gulf conflict this 1Mb only demo takes a light hearted look at the war with some great and detailed cartoon style graphics. The demo climaxes with a tank battle between George Bush and Saddam Hussein. To say much more would spoil the demo, so all I'll say is that it's a great demo that even has a moral - what more could you ask for?

Toilet Paper Demo

The simple things in life are often the best or so Kelloggs would have us believe. In the case of computers complex increasingly seems to be better but the next demo shoots a few holes in that theory.

The Toilet Paper Add demo is great not because it features more bobs than you can count but because it is genuinely funny. It features only one graphic screen and the rest of the disk is taken up with a sample extolling the virtues of toilet paper.

Some people may find this offensive as the language is a little



rough - but everyone I've shown this demo to has been hard pushed to avoid rolling around the floor from laughter. It really shows what can be done with a sound sampler and a little imagination.

More from Budbrain

Budbrain is another group with a sense of humour - although their humour seems to be decidedly off beat, it shows through again in their second mega-demo imaginatively titled *Budbrain II*.

Be warned though, this demo features the infamous scene of a cartoon Madonna being killed in a shower scene like that in *Psycho*. This can either be viewed as very funny or extremely sick.

The high-light of this demo is the incredible acid-house music mix which goes by the name of Africa. This really is one of the best music mixes I've ever heard on the Amiga. On top of the incredible sound it also features some very good graphics. The disk would be worth getting for this part alone.

More bad taste!

Fraxion is another group that can occasionally be accused of pushing the boundaries of good taste a bit too far, thankfully in their *Highway 1930* demo this is not the case. This effort features a car chase and shoot out complete with some interesting running commentary on the scroll. As a change of pace the end of the demo features some interesting bits of philosophy.

PD GURUS

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Demo of the month!

Now for the part you've all been waiting for - the awarding of the first ever Demo of the Month award and it goes, I'm pleased to say to an Australian group - Predators. Although this demo has been around for a while it stands head and shoulders above most other mega-demos, one of the main reasons for this is that it is largely interactive.

The demo features two complete two player games.

The first is a Tron game and the second is a great two player shoot'em up pitting two players in rival tanks in a battle to the death in a maze. In game-play it is reminiscent of some of the Atari 2600 games but the graphics are of Amiga quality.

The other unusual feature of this demo is that it contains an object editor which allows you to make your own objects and set them spinning. On top of the parts I've described there are still another eight to go. If you're a fan of demos or like to see proof that Aussie demo crews really are as good as their more famous overseas competition, get this - it's incredible!

Well that's it for this month, if your after any of the demo's I've looked at this month they are all available from the 17 Bit Library which is now distributed by many Australian public domain companies. □

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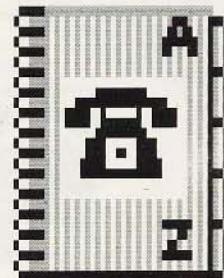
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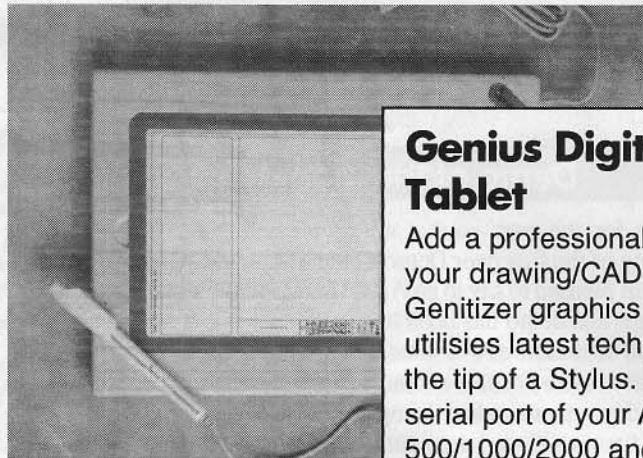
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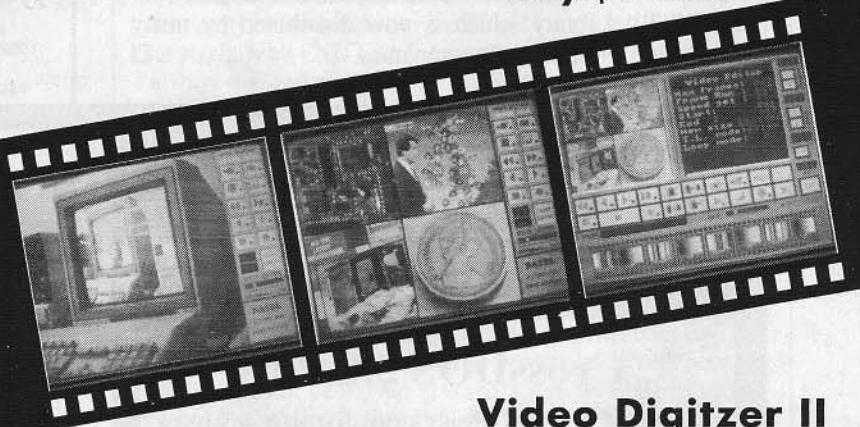
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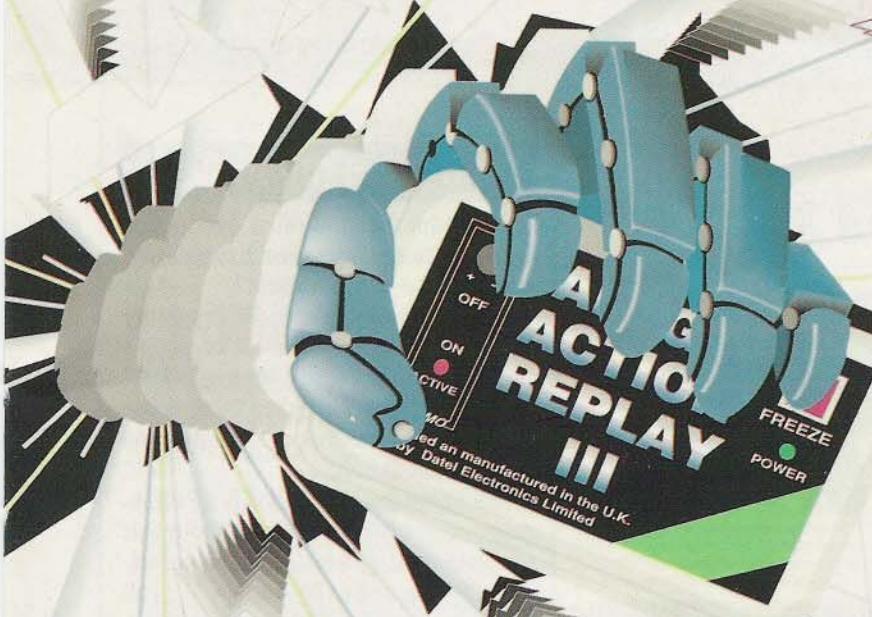
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For Beginners

Andy's Attic

Welcome back to my humble Attic. This month we'll talk of word processing and look at some of the advantages and disadvantages of WPs as against straight text editors. We'll have a bit of a play with the Amiga's "speak" device and throw in a few general hints and tips from yours truly for good measure.

Word processing - What is it?

Just about everyone would have a copy of *Textcraft* or *Kindword* and these programs, while slow for the seasoned user, are good for beginners to learn the basics of word processing. The more advanced user would probably turn to more powerful equivalents such as *WordPerfect*.

Most people would use a word processor to create documents which they would intend to eventually print out on a printer. Things like employment resumes would be popular items these days, letters to friends or whatever. Word processors are handy for these purposes as you can easily change the contents and correct the mistakes before you actually hit the print button. Formatting of words is automatic and they provide the means to make multiple copies of letters easily.

For those reasons and more, WP's are far more convenient and popular to use than the old faithful Olivetti typewriter and white-out when writing.

Text editors on the other hand have quite different uses. Software programming, for instance, is quite of-

ten done on a text editor as they have the advantage of speed over most word processors and automatically save files as ASCII. Other uses for text editors include writing .doc files for PD products and generally just about anything else, text wise, which is not as a rule, intended to be printed off in any fancy styles.

The reason for the above explanation is to try and give you an idea of how to select the correct tool to do the job which you want to achieve.

Most people will stick with WP's because they like to put a little bit of style in their writing. Being able to change the style of a sentence or word to an *italic* or *bold* style can help put a point across and mean the difference of that sentence being noticed by the reader or not. I don't have those needs so I use *QED* for all my writing and find it incredibly fast, easy to use and very user friendly. It suits me down to the ground, but you may not like it.

There are dozens of different text editors available in the PD libraries and you can get a disk chocka block full of ones which I put together for Prime Artifax by writing to them and asking for the theme disk to be sent to you. Check the advertisement in this issue for more details.

Above all, don't cast aside text editors simply because your word processor will do everything you want. My reasoning behind this is simple. It's true that a sledge hammer will put a 19mm nail into a piece of pine, but it's far more sensible to use a tack hammer. Same principle applies to this. Think about it..

Kids and the Amiga

Something that is often overlooked with the Amiga is its speech capability. It's there, so why not use it?

Often, the Amiga's speech capability is overlooked because a lot of people think the option fairly useless. However, if you have kids, then there is one reason it can be useful, entertaining and educational to boot.

Kids have a natural curiosity for something unusual. I have a four and a half year old little girl whose name coincidentally happens to be Amelia. We call her Amy for short. Like most children, she loves the Amiga and enjoys playing various games and clicking around the workbench with the mouse. Try to get her to play around with a boring keyboard and words on a screen, for a while was proving an impossible feat.

I bought a couple of educational games in an effort to get her away from the joystick but to no avail.. Nothing was as much fun as crashing the plane in *Interceptor* or making Donald Duck's nephews walk around the park in *Donald's Playground*.

Fooling around with the Speak: device one day, I stumbled across a nifty little trick which I'll share with the parents amongst you, almost guaranteed to get your child to play with the keyboard and words for a change, rather than shooting things with the joystick. Well, for a little while at least.

First thing you need to do is make sure the SPEAK: device is mounted. Check if it is by opening a Cli and typing ASSIGN followed by the return key. You should get a list of assignments and at the bottom of the list, another listing of which devices are available to you at that time. Should look something like this.

Devices: CON DF0 DF1 DH0 NEWCON PAR PRT RAM RAW SER SPEAK

Now if SPEAK is already there then you need not worry about the next step, however if it's not, then just type into the Cli the command.

MOUNT SPEAK:

Everyone would probably have modified their Workbench at some stage so if



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you get an error message, make sure that the "narrator.device" is in your DEVS directory and that the "translator.library" exists in your LIBS directory. Also check that your Workbench L directory contains the "speak-handler". Finally, be sure that your "mountlist" file in DEVS includes the following lines:

```
SPEAK:  
Handler = L:Speak-Handler  
Stacksize = 6000  
Priority = 5  
GlobVec = -1
```

If all else fails, get out your original copy of Workbench 1.3 and make a fresh copy of it and boot up with that.

Once you have mounted Speak: simply enter the following line in your Cli.

Copy * to Speak:

Press return and after a few seconds of disk access, you will end up with the cursor on a blank line in the Cli. Turn up the volume on your computer monitor and, making sure the child is within hearing distance, type in something like..."Hey <Your child's name>, come over here and talk to me." Ask your child a few questions with the Amiga and get them to have a bit of a conversation with you at the helm.

Instant interest! After a little while, curiosity will get the better of the child and he or she will be asking how you make it do that. Here is your opportunity to give the child some spelling lessons, teach them to type their name and so on. With a little bit of imagination, you can keep the child occupied for quite some time. The bonus is you will be surprised at how quickly your child learns the art of putting words together on a keyboard.

So as you can see, you do not have to spend hard earned dollars to sway a child away from shoot-em-ups and the like. All you need is a little imagination. Fun and learning go together hand in hand. It's up to you to figure out how to make learning fun and easy and this is but one way of achieving it.

The Amiga's speech capabilities have other useful purposes if you think about it for a while.

Parents with visually impaired children can use this feature to help their child advance in computer literacy,

something which will prove essential in this day and age as they grow up.

Finally, don't forget that SPEAK: is a device and therefore has the potential to have the results of commands redirected to it. You can do this by the use of the redirection symbols < & >.

We know from past issues that we can TYPE a textfile in the cli simply by issuing the command "Type Filename" I've also shown you how you can redirect that output to your printer by using redirection. In the same way, you can redirect the output to Speak: so if you don't feel like reading a textfile, then have the Amiga read it to you like so.

Type TextFileName > Speak:

Experiment and play around with the speak feature of your Amiga. It's fun and has many possibilities. Most times, you find things out simply by stumbling across them when playing around. Life is short, try everything.

A590 Hard Drive Problems

If you have an Amiga 500 and own an A590 hard drive, then you may come across the problem at some stage where all of a sudden, your Amiga will simply refuse to recognize the hard drive at all. This has happened to me a few times, but the first time, I can tell you, it sent me into somewhat of a panic.

Having not backed up the all the data on the drive as yet, I did not want to run the setup program which came with the drive and reformat the drive because everything on it would naturally be lost. A quick call to my local ComCare centre resulted in a quote of \$40 just to look at the drive and then there would be a charge on top of that to fix the problem. There had to be a cheaper way.

There was!

If you ever strike this problem, try this. Fire up the HDTToolbox program that came on the A590 setup disk and select "Partition Drive". The program should recognize that your Hard Drive is connected and that is in fact what was confusing the issue for me for so long. The program knew the HD was there, but it refused to come up on Workbench.

To rectify the problem, once you are in the program, select the "Partition Drive" option which will take you to another screen in the program. Once there, you will see an option which allows changing the "Partition Device Name". Change this name to anything you like and hit return. Now change it back to its original name and hit return again. Select OK to go back to the main screen.

The option to "Save Changes to Drive" should be enabled now so click on it. Exit the program and reboot your Amiga and you should have your drive back intact with all data.

Note that if you get a message from the program telling you that Saving will destroy data in "x" number of partitions, then you have done something wrong and you should abort the save or you will lose data. Cancel everything and start from scratch.

There should be no warning message about losing data if all you change is the main partition name.

I must admit that why this works I'm not exactly clear, but I do know that it has not let me down on at least five occasions now. So if you run across this problem, try it out before dropping off your system to a computer doctor. It might save you a buck or three. Hope it does.

Problems giving RAD the Boot

I've received a couple of letters from readers who said they were experiencing problems getting their Amiga to boot up from a RAD disk even though they had set it up correctly. Remember that to be able to warm boot your Amiga and have it reset via a RAD disk without a bootable floppy in DF0:, you MUST have Kickstart 1.3 installed in your machine.

It will not work with only the 1.3 software upgrade. The software gives you ability to create and use a RAD disk, however the hardware side of things is what gives you the ability to Boot-Up from the RAD disk.

Having said that, if your Amiga does

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show the WB1.3 hand when you switch it on and you are still having problems achieving this task, then check your mountlist file in DEVS includes the following line under the entry for RAD:

BootPri = 128

This forces the Amiga to boot from RAD: regardless of whether you have a floppy disk in drive DF0: or not. To kill the effect, you can either switch off the power to the Amiga and switch on again after about 10 seconds, which will effectively kill RAD and its contents, or simply type the command "REMRAD" in a Cli.

If you are still having problems, then keep an eye out for the next issue where I plan to go right into how to set up a bootable RAD disk and make your Amiga re-boot via the RAD disk.

Finding Your Files

Have you got a cluttered up hard drive with files all over the place? Do you constantly spend ages looking deep through directories trying to find a file you know is in there "somewhere", but not sure where? Give the WHICH command a try.

Next time you're in this predicament, open up a CLI and type in:

WHICH <FileName>

where <FileName> is the file that you are trying to find. The result will

either be <FileName not found> or <DH0:s/filename>. The latter is of course the full path name to where the file currently resides.

If it exists in more than one directory, then the Amiga will list all the places where you have a copy of it for you. Try "WHICH .info" to see what I mean.. A great little time saver that is available as standard with Amiga Dos. Works equally well with floppy disks.

Modem Users Look Here

Amiga users have missed out for long enough on being able to read and reply to echo mail offline while IBM clone users have had utilities allowing them to do this for a long time. Not any more. Enter *Amiga Reader* by Todd Sieland-Peterson, a shareware author from the US of A.

Amiga Reader allows Amiga users to download .QWK format mail packets from Bulletin boards that offer this facility, read and reply to the mail at leisure and then upload a response mail bag next time they log on containing the messages they wrote offline. You can use any text editor of your choice with the reader. This is a great time saver and makes for more time to download all the latest software which had been uploaded since you last logged on.

At time of writing, *Amiga Reader* is up to V2.0 which I'm told works quite well with WB2.0.

I've personally played around with V1.0 of *Amiga Reader* and found it to have some minor problems, but overall, it works quite well. A quick look at V2.0 showed an impressive new look to the reader along with some new features. At time of writing, V2.0 of *Amiga Reader* is still in Beta stages, but it appears that Todd is working on the product rather vigorously so we can look forward to a finished product soon.

Something to look for next time you log on to your favorite BBS. If you can't find it where you call, you can get it from here on your first call at my BBS. Located in the Free Files area, it only takes about four or five minutes to grab at 2400 baud. Call: Andy's Attic! BBS (03) 749-4897, FidoNet - 3:633/106, 24 hours a day.

What I would love to see is an Australian author come up with a product of this type. If there are any shareware authors out there that would like to have a crack at something like this and need an avenue for advertising and Beta testing, feel free to contact me via my board or send a note addressed to: Andrew Leniart, P.O. Box 1335, Hoppers Crossing Vic 3030.

That's it for this month. So, till next time, keep hammering those keyboards.



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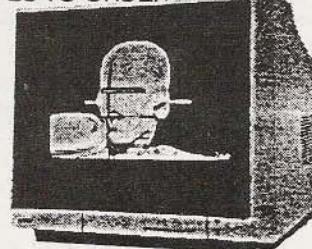
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Amiga Basic Graduation

Part 5 - IF-THEN Errors

by Peter Deane

The last three issues all dealt with the subject of file handling, reasonably comprehensively. So I feel that rather than discussing device handling as planned (which would be another dose of the same) we should look sideways and consolidate our position a little.

This article will cover elementary error trapping; a look at the IF-THEN construction; and as a project, we'll print a textfile to your printer so the device issue isn't completely ignored. A lot of the IF-THEN construction will be used in error trapping, so let's start with that.

IF <interested> THEN <read on> ELSE <turn the page>

Such is the basic structure of an IF-THEN construct. Probably the most tricky part of this is that not all parts of the construct need be present for it all to work correctly.

In code, a line like:

IF a% = b% THEN a% = a% * 1.1
is the same sort of construct as:

```
IF a% < b% THEN
  IF a% >= c% THEN
    x% = a% * c%
  ELSEIF a% >= d% THEN
    x% = a% * c%
  ELSE
    x% = a% * b%
  END IF
ELSEIF a% > b% THEN
  IF a% < c% THEN
    IF a% < d% THEN
      IF b% <= c% + d% THEN
        x% = q%
      END IF
    END IF
  END IF
ELSE
  x% = a% * (b% * 1.1)
END IF
ELSE
  x% = a% + 7
END IF
```

believe it or not!

I tend to favour the multi-line system of IF-THEN because it enables you to modify the program later with less drama. The type of statement I use may well have been written on one line, like:

```
IF a=b THEN a=c:d=1:e=2 ELSE a=d:c=1:e=3
but would read more effectively converted into multi-line
nesting:
```

```
IF a=b THEN
  a=c
  d=1
  e=2
ELSE
  a=d
  c=1
  e=3
END IF
```

and would be easier to modify at a later stage.

There is one important line in the above statement: the 'END IF'! You must terminate a multi-line IF-THEN construct with an END IF. If there are nested IF-THENs they also must be tied off with a corresponding 'END IF'. I think the example above probably covers every incidence and combination that would come up in everyday programs. Needless to say, you can take it to a more involved state than this one, however it becomes difficult to read. A series of GOTOS may be more appropriate for readability sake.

Wheel Alignment

Multi-line nested IF-THENs, especially when properly indented, are normally quite easy to read. And the flexibility of BASIC is evident from what you can do with this nesting.

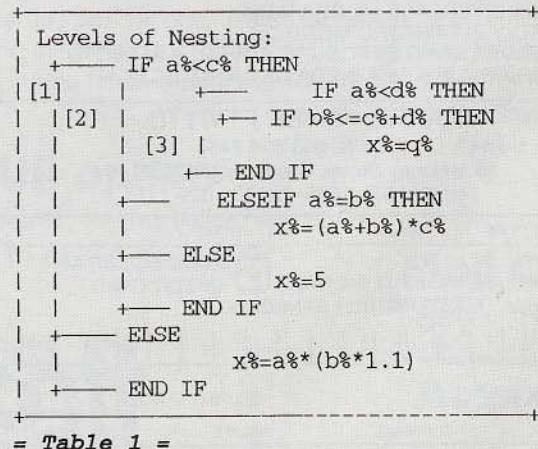
Often, errors will creep into the nests simply because of their complexity. It is crucial that you indent your code. For each IF that you haven't END IF'd, then come in a tab stop from the left. I always use 2 spaces, because GFA automatically indents the code as you type it, using 2 spaces for the tab. You may care to use more, if you like.

If something's going astray, line up the troublesome lines as in a way similar to table 1:

Ensure that all your statements line up. If you miss an END IF, then the rest of the program (the entire program, possibly!) will be interpreted as following on from your un-closed IF-THEN construct, and will execute unexpectedly.

The error message that BASIC produces (IF without ENDIF) show up at the wrong line as far as you're concerned, because BASIC will still be hoping to come across an END IF until it reaches the last line in your program.

It can be VERY difficult to spot these errors off hand in complex nests, so when you are writing them, you need to be a little careful to produce clear code.



= Table 1 =

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ELSE or ELSEIF?

The difference between ELSE and ELSEIF is very useful. You can have as many ELSEIFs in a nested construct as you like, but only one ELSE for every IF. In a practical sense, you test for all the expected possibles with ELSEIF, but an ELSE section will allow you to take action if something unexpected happens.

I think this is best explained by an example:

```
IF a$="S" THEN
    PRINT "Saving"
ELSEIF a$="P" THEN
    PRINT "Printing"
ELSEIF a$="L" THEN
    PRINT "Loading"
ELSEIF a$="Q" THEN
    PRINT "Exiting program..."
ELSE
    PRINT "Invalid command. Please Re-enter:"
ENDIF
```

True, so true?

Another not-so-well-known point about the IF-THEN statement is the boolean mathematics that figures out just which branches of the IF-THEN nest to venture through. Let me first clear up a misconception: the IF-THEN works on one statement resolving as true; not the idea that one variable has a certain relationship with another.

This will not be clear, so let me explain the syntax of IF-THEN:

IF <condition is true> THEN

<condition is true> could be represented by:

```
a=b
a>=b
SIN(a)<= 34.24545
a
```

What was that last one? a? IF a THEN do something?

Well, in BASIC, the IF-THEN criteria is worked out from the BOOLEAN (only two possibilities: true/false, on/off, yes/no, etc) expression, contained between the IF and the THEN.

Any numerical expression is TRUE except if the number happens to be zero.

In other words the two expressions [A] and [B] are identical:

```
[A] IF a<>0 THEN
    action
END IF
```

```
[B] IF a THEN
    action
END IF
```

On the opposite side of the coin, [C] is equivalent to [D]

```
[C] IF a=0
    action
END IF
```

```
[D] IF NOT(a) THEN
    action
END IF
```

Notice the simple way of negating the statement by using the NOT() operator. Using simple boolean expressions often leads to many ways of skinning the one cat.

The truth (or otherwise) of the statement determines what happens. a=b is mapped out to (a=b)=TRUE. a=0 would be mapped out to (a=0)=TRUE. In the latter case you can see it only adds a step to the processing the computer needs to do. If you use [C] then you are asking the machine to work out the boolean value of (a=0) and then take action based on that.

By using [D] the computer looks directly at the value of (a), reverses it (which doesn't take a machine very long to do, mind you) and already has the boolean value without doing any comparison. Comparisons - particularly string comparisons - really slow AmigaBASIC down and should be avoided when speed optimisation is your aim.

Here are two more synonyms:

```
[E] IF a=b THEN
    IF a=c THEN
        x=1
    END IF
    ELSEIF a=c THEN
        x=2
    ELSE
        x=3
    ENDIF
ENDIF
```

```
[F] IF (a=b) AND (a=c) THEN
    x=1
ELSEIF a=c
    x=2
ELSE
    x=3
ENDIF
```

I suggest you have a look pages 8-15 to 8-17 in the BASIC manual for a good summary on the logical operators, AND, OR, NOT, and experiment yourself next time you get to an IF-THEN construction.

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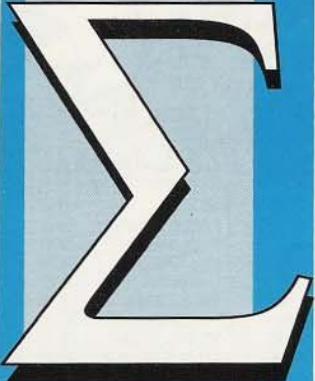
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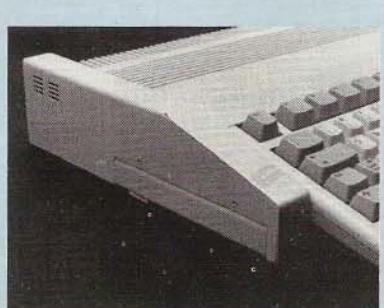
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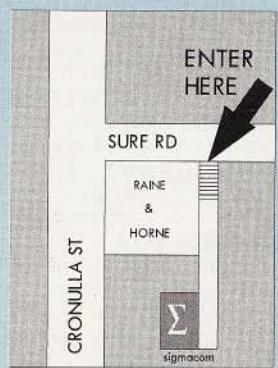
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To Err is Human

... but to really make a complete hash of it takes a computer. The biggest problem facing the computer is that it has no common sense. If you had to go out shopping, went to the bank, and found you had overdrawn your account and couldn't get money, you'd probably go back home then and there.

A computer sent on the same task, would, unless specifically instructed otherwise, continue on from the bank to the department store, where it would have trouble paying up. It can't make seemingly simple decisions for you off its own bat. You have to be prepared for what can possibly go wrong, and provide a reasonable path of alternative procedures. A seemingly moronic solution in the human world such as not to cross the road without looking both ways, would involve days of programming into a robot.

Fortunately, BASIC lets you know that an error occurred, which error it was, and if you code for it, whereabouts in the program the error occurred. It allows you to branch to a set of lines in the code to take appropriate action, and it provides some chance of resuming the program if the system seems to have any chance of continuing.

Of course, some errors may not have any appropriate recourse, save for quitting the program, and giving back any system resources; whereas others might allow for the user to change a parameter, insert a disk, and so on, to allow the processing to continue uninterrupted.

It would be beneficial to see which errors can be trapped. Appendix B - toward the very end of the BASIC manual

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contains a full list of error numbers, and a description.

Suffice to say if error 7 or a major programming blunder like errors 8-13 (and others), then the only solution you have is to let the user know an error occurred, possibly provide some useful commentary, and quit under error conditions. However, if there's a simple error like 61 or 70, then the user can be prompted to fix things up.

(Look these error numbers up to see what I mean).

Building Speed Traps

Error trapping is put in a program by using one line of code:

ON ERROR GOTO <label>

To turn error trapping off, use

ON ERROR GOTO 0

Naturally, you can jump to different error-trapping code in the same program by arranging the code as so:

ON ERROR GOTO 19999

'

' Initialise variables, read in configs, etc.

' Any errors here we'll tell the user we
' couldn't setup, &c. and quit out.

'a=1

b=2

'

' etc, etc.

'

ON ERROR GOTO 0

'

' This part of code is robust - don't bother checking

PRINT "Hello."

'

' and similar intro functions

'

ON ERROR GOTO 29999

'

' Now we are going to ask the user for a
' filename! Better be very careful of
' anything a !!USER!! tells us.

'

INPUT "Enter Filename to Load ",f\$

'

' Later in the code would be labels for '19999'
' and '29999'.

There is also another piece of information obtainable from the code, but only if you label your code with line numbers! ERL returns the last line label the program executed before the error occurred. This can be useful for using only one ON ERROR GOTO jump, determining where the

error occurred, and taking action based on this information and a global error parsing routine.

To get this ERL value, it's important to use numerical labels at each main section of code like this:

100

'

ON ERROR GOTO 9999

'

a=1

b=2

'

200

'

PRINT "Hello."

'

300

'

INPUT "Enter File to Load ",f\$

'

When you jump into the error handling code, you can ascertain the last line number the computer executed, thus pinning down the error somewhat. I really don't like this method, and prefer to trap errors with different error sections for certain parts of the code. You can even have a common label for ALL disk file errors, and jump to it from various sections of code.

On the Road Again

In every error handling section of code, you must include a magic word RESUME. RESUME allows your code to carry on somewhere. In a strange case, where we simply END the program, you still need to add the word RESUME after the END for the sake of the interpreter.

This sort of code illustrates the quirk:

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ON ERROR GOTO 99999

...

99999

PRINT "An error has occurred: ";ERR,"."

PRINT "Terminating run."

END

RESUME

The RESUME simply appears to be a hitch-hiker in the code. It's needed to let BASIC know the error trapping code is over, and normal code is following.

There are three options you have with a RESUME statement. 'RESUME' on its own will return operations to the command that caused the error. (Retry). 'RESUME NEXT' will return to the command immediately following the error (Ignore). You can also 'RESUME <label>' to jump to a definite line of code somewhere. This can be asking for trouble if there unclosed FOR-NEXT, WHILE-WEND or similar loops unresolved at the

time of the error. In most cases, it does provide a handy recovery, but be cautious using it, as it allows you to jump indiscriminately around in your code.

New Info Source

In late December I setup a new Australian FidoNet echo called 'OZAMYBASIC'. If you have a modem, and would like an excellent way of staying in touch, then pester your sysop to arrange a feed of the echo to his system. Hubs in Melbourne, Brisbane, Sydney and possibly Adelaide will all have the echo, so it's probably a local call away from him.

Participating in the echo will allow you to get answers more quickly, and be a lot more interactive than these magazine articles. The echo is also intended to cover HiSoft, Amos and GFA BASIC - in fact any Amiga BASIC language derivative.

If you are having trouble finding the echo, netmail me or get your sysop to do so. My Fido address is 3:622/491.0.

Next Time:

Well, having stolen the march on March's article, we now need to have a slightly closer look at programming for devices. There haven't been any reader questions of note this month, maybe next time? It's up to you.

You can contact me by writing to:

Peter Deane,

PO Box 13,

WARATAH NSW 2298.

If you have a modem, you can call my BBS (Inquestor) on (049) 67-6808. Electronic mail always gets faster responses. Also, replies cannot be guaranteed, but if you don't include postage, you will guarantee not getting a reply!

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CDTV

Any questions about Commodore's new CDTV? Why not write to CD-Feedback, c/o Phil Campbell, PO Box 23 Maclean, NSW 2463.

Compatibility Questions

Dear Phil, I own an Amiga 2000 and am considering purchasing a CDTV but I would like to know whether the CDTV is totally compatible with my A2000? Can I run a CDTV game or program through my A2000 therefore using the CDTV as a CD ROM for the A2000? Can the CDTV remain connected to my A2000 without causing problems? Is it possible to load a CDTV program from the A2000 Workbench? Would I be able to use the A2000 keyboard on the CDTV?

Scott Gunton

Queenstown, TAS

Ed: No. Not really. Yes and No. What do you mean? Yes!

Those are your answers in a nut-shell, but it seems to me that you're a little confused about what you're trying to do. Commodore are about to release the A-690, a CDTV add-on for the Amiga 500. It will act as a super-CDROM drive, and also as an almost fully featured CDTV.

However, the situation with the A-2000 is not quite so clear - I'm not sure if the A-690 will be compatible. But you're asking about the CDTV itself, which is a rather different kettle of fish-disks.

When you ask whether the CDTV is compatible with the Amiga 2000, I'm not really sure what you mean.

You can - with difficulty - set up your CDTV and Amiga as a network, transferring data back and forth. But that's not really why you'd buy a CDTV - it's capable of doing so much more on its own. Likewise, why would you want to run a CD game THROUGH your Amiga? Sure, you can use your Amiga monitor. And even an external disk drive. But other than that, your Amiga is not involved. You can, however, run some Amiga games through your CDTV by attaching an external disk drive.

As to whether your CDTV can remain connected to your Amiga, it depends on exactly what you're intending to attach to where! Again, if you're linking the two units as a network - usually through the parallel port - you can probably leave them connected, unless you're intending to print. With this set-up you can load some CDTV software from your Amiga workbench - but not much.

The Fish Disk Collection CD is an example - you could access it from your Amiga, but probably only through the CLI unless individual programs have icon files.

Finally - and here's the good news - you CAN attach your A-2000 keyboard to your CDTV with an inexpensive adapter cable available from the Hard Disk Cafe in Sydney. See their advertisements in this issue.

Game Differences

Dear Phil, What differences do *Sim City* and *Xenon 2* have on the CDTV? I have them on our A500.

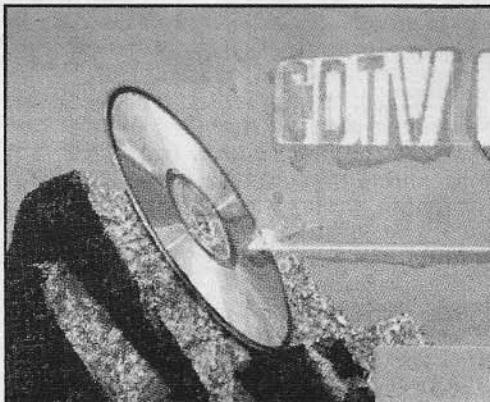
By the way, thanks for a great mag. Keep it up.

Ben Cheney
Lockleys, SA

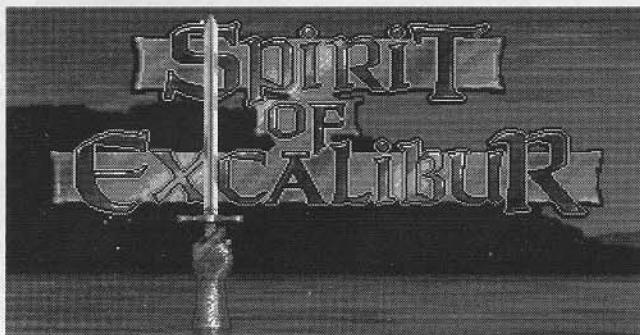
Ed: Let's start with *Xenon 2*. In the Amiga version, the Bitmap Brothers were very proud of their Soundtrack, produced by Bomb the Bass. It was one of the strongest selling points of the game. Well, wait 'til you hear the soundtrack on the CDTV version! The fact is, there are around seven tracks to choose from, all playing direct from CD. An option screen at the start of the game lets you choose the track you prefer.

Other than that, gameplay is almost identical to the original - there are minor enhancements between levels when you visit the shop. The alien shopkeeper introduces himself (as Colin!) in a gravelly metallic voice, which adds considerably to the atmosphere. All in all, *Xenon 2* is a good conversion, making use of CDTV's enhanced sound abilities and not skimping on gameplay.

Sim City is a different story. I must admit, I didn't really give it a fair trial, as my first reaction was one of disappointment - graphics and gameplay have been changed fairly dramatically to suit the CDTV format, and I found it a bit annoying after having spent so much time on the mouse-driven Amiga version. Moving things with the standard CDTV controller was tedious, though the new trackball controller would probably make a big improvement to the gameplay. I honestly didn't even play long enough to check out the soundtrack! Sorry! Anyhow, if you buy a CDTV, Commodore are bundling a copy of *Sim City* with every unit - you'll find out what it's like free of charge.



CDTV GAMES



Come on a medieval adventure with Phil Campbell as he introduces this terrific new title for the CDTV.

Spirit of Excalibur was one of the best Amiga releases of 1990. Now it's available on CDTV, with a superbly enhanced soundtrack and smooth gameplay.

You play the part of Sir Constantine, a typical medieval "born-to-rule" type of guy, upper crust, educated at all the right schools. And life's not easy at all - especially since the death of King Arthur. Some people want Constantine to take over. And others want him dead.

That's the meat-in-the-sandwich situation you'll find yourself chewing over in this chivalrous medieval tale set in the Merrie Englande of 539 AD.

Your first challenge is to guide Constantine safely to the throne. Then you will preside over the Knights of the Round Table in an effort to bring stability to your fragmented nation, while fighting off the evil advances of Melehen and Morgolon. When you sort that lot out, there's more. Like a giant warrior at the walls of Camelot. Or the Enchanted Knights of the Forest Sauvage. And in the final episode, Morgan Le Fay's Revenge.

Spirit of Excalibur is a beautifully crafted game. Even the instruction manual is a work of art - the text reflects thorough historical research, and the delicately tinted woodcuts add an authentic touch of atmosphere.

The quality is just as apparent on the screen. The game is controlled from a scrolling map display, with a HyperCard style system giving access to close up pictures of each village

and castle. With a colour palette picking up the lush greens of the English countryside and a style reflecting the influence of medieval tapestry, the graphics are dazzling.

Spirit of Excalibur breaks traditional boundaries. It's a blend of Fantasy Role Playing, adventure and combat simulation, with an optional dose of action in the fight sequences. Early in the game, for example, I encounter a monk. "Ah, Lord Constantine," he exclaims with a suitably English accent - "You have come just in time. The evil Knight Lupinus has challenged Sir Villars to single combat. But Sir Villars himself is recovering from wounds he received in Wales. Will you stand as champion in his place?"

Always eager to impress, I accept the challenge. In a traditional Role Playing game, the outcome of the battle will depend on the accumulated skill-points of your character rather than your speed with the joystick. You can certainly play it that way if you prefer, but if you're itching for action you can take over, using the CDTV controller to direct every thrust and parry for yourself.

The first time around I simply choose to watch, as Constantine makes easy work of his enemy. In moments Lupinus lies dead on the cobble-stones, and the grateful Sir Villars falls to his knees. "My Lord Constantine," he says, "You are a worthy successor to King Arthur. I swear my eternal fealty to you and the realm." A good start in my quest to become King.

Soon I have added Sir Gahalantine to my list of allies. Then there's a tactful donation to the influential Abbot of Salisbury and some clever political manoeuvring, and by the time I arrive at Camelot I'm welcomed with open arms. "Long live the King!"

But that's just the beginning - and after a quick meeting of my cabinet around the famous table, we're off on our very first quest. Now role playing fans will really be in their element, with characters to select, equip and galvanise into a first-rate team.

Spirit of Excalibur is a skilful blend of style, depth and simple fun - it's a thoroughly engrossing game that's seen our CDTV in constant use for days. Your game position can be saved on either disk or smart card, so you can immerse yourself in a long campaign.

Our copy of *Spirit of Excalibur* came from the Hard Disk Cafe (02) 979 5833.



The Geos Column

Laying out a newsletter

by Arthur Stevens

Continuing on from last month's column about *GeoPublish*, this time we'll be looking at how to lay out your magazine/newsletter.

It's always very easy when working with desktop publishing to believe that, because a document looks good on the computer screen, it's going to look just as good when printed. Sometimes it's okay, but other times it just looks a dreadful mish-mash of columns, headlines and graphics.

Decide on your layout, and stick to it (harking back to last issue, I suggested you check out the libraries on your *GeoPublish* master disk for examples).

When I'm working with my well-battered MPS803 printer, I have to work to a 60dpi layout and also have to limit the work area on the "Master" page. The best way to do that is to put in your own limits. Select "mode" menu and "master pages" submenu (or just press Commodore key and M). See Fig 1.

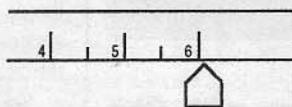
geos	file	mode	disp	options
		page graphics	C=G	
		master pages	C=M	
		page layout	C=L	
fig 1		editor		

This opens a Master page on which you can lay out any lines, margins, text, page numbers, graphics etc., that will be repeated on all pages.

Move your pointer to just above the top of the page, the pointer will

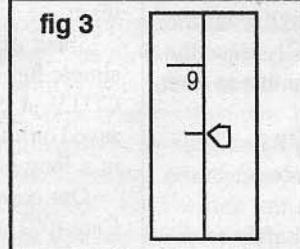
change to a small marker. Go to just right of the 6" mark and press your left mouse button (or fire button on your joystick). See Fig 2.

fig 2



This puts a vertical dotted line on your master and is your right hand edge-of-page marker. Now, go to the left hand side of the page, to just above the 10" mark and again press your button. See Fig 3.

fig 3



You should now have a horizontal dotted line on the page as your bottom edge-of-page mark. You'll also have to allow space on the left hand side of the page, particularly if you're going to edge staple your newsletter.

At the top of the page, go to the first 1/2" rule position and click your mouse. This leaves another vertical dotted line. Now you're ready to proceed with your layout for a 60dpi printer (if you have a 72 or 80 dpi printer, check the master libraries on the *GeoPublish* disk).

I'm assuming at this point that you already have your *GeoWrite* files on the work disk ready to import into *GeoPublish*. If not, go to *GeoWrite* and get them ready, keeping your left margin set to the leftmost edge, and use the full page width for your document (*GeoPublish* will adjust them as necessary) and set your page justification to either left or full. Make sure you use the typeface and point size you wish your file to appear in on your *GeoPublish* document (though again, this can be edited within *GeoPublish*). When you've completed your *GeoWrite* files, transfer them, along with the necessary fonts to your *GeoPublish* work disk.

In the case of a single drive system, put them on the same disk as *GeoPublish*. For a two drive system, *GeoPublish*, fonts, desktop and printer driver should be on one disk, Work files (*GeoWrite* files, photo manager, albums etc) on another.

If you have *GeoRam* or an expander which allows RAM 1571 use, all files can be transferred to the RAM drive. There's plenty of room, and it's so much faster.

Open *GeoPublish* (Point at the icon and double click, or if you're using *Geos v2.0* you can press Commodore and the Number corresponding to the position of *GeoPUBLISH* followed by Commodore "Z").

GeoPublish will now load and go to the opening screen. Select CREATE, and enter the title and edition number of your newsletter (e.g. News1). It's not a bad idea to put an extension on the file name to identify it as a layout (News1.lay). Go to the master page (Commodore M) and set up your layout style. Put in any standard text needed for all pages, for example PAGE for page numbering (DATE and TIME are also available). Set the text style and size by clicking on the "T" box in the on-screen tool box and pressing Commodore "A". This puts you in the attributes area which is fairly self-explanatory (Note: to adjust the attributes of ANY toolbox item, click on the item, then press Commodore "A").

To leave the master pages, decide whether you're going back to the text

layout page (ready to import *GeoWrite* text files) or to the graphics page (Note: headlines are treated as graphics objects by *GeoPublish*), then press either Commodore L (text layout) to Commodore G (graphics).

In the layout mode, one very important item (and here ALL the sample libraries fall down badly), it's not a bad idea to butt all your columns together, perhaps two or three (even four if you're using a Laser printer). In other words don't leave a gap between the right hand edge of one column and the left hand edge of the next, *GeoPublish* takes care of that for you, with an acceptable gap between each column. You could then add a thin line to define the column boundaries.

When you're ready to import your graphics, a two drive or *GeoRam* system will have plenty of room for you to use the photo manager from within *GeoPublish*, (technically there's no problem with a single drive system, but it gets very crowded on the disk with huge graphic "Photo" albums on board. Keep it to bare bones and it'll work okay). Just go to the "geos" menu and select photo manager from the submenu. If it's not there, you haven't transferred it to the right disk yet, so go fix it.

There are two versions of photo manager, v1.1 which is the basic cut & paste system, and v2.0 which has a search facility and the ability to catalogue each album (restricted to 60 "photos" per album).

Okay, it's over to you, go to it, and remember to send me a copy of your newsletter when you've finished it. Love to see the result.

How to Contact Me

Remember, if you have any problem with *GeoPublish*, or in fact any Geos product, drop me a line c/- ACAR (address at the end of this article), or, if you have a modem operating 300, 1200, 1200/75 or 2400 baud rates and a terminal program, drop a message into my Electronic Mail on the TALISMAN Image BBS, 059-44-4061 under Artie (what else?).

There is also an excellent Geos sup-

port area on PILBARA Image BBS, Karratha W.A. Telephone 091-85-2754 (Note: these are both Commodore 64/128 specific bulletin boards).

Geos News

Interesting figures quoted to me in a recent conversation with Ray Firth, Managing Director of Computermate in Sydney.

Ray quotes *GeoWorks* management in California, where it's said a mailing list of 1.1 million *Geos* users (both 64 and 128) were offered a good deal to upgrade to *Geos* on the PC. *GeoWorks* claim 12% replied they'd like to upgrade, effectively reducing the 64 and 128 user base in the USA by 120,000.

I received my review copy of *GeoWorks Pro Ensemble* recently, and I'll be having a good look over the next month, and I'll let you know through these pages how it measures.

While all the talk of doom and gloom still exists about the future of the 64, there was still a massive growth in the number of 64 systems sold in the lead up to a recession hit Christmas '91, and that means an increase in the number of people (mainly kids admittedly) using the 64. I wonder if ACAR could offer a subscription form with each 64 sold (Hmmm, Boss?)

From the "Smart Move" department, is word that *GeoCalc 64* is back on the shelves. Distribution had been discontinued, for whatever reason, however it's been seen for sale at Logico in Sydney and Maxwells in Melbourne.

Still no sign of any change in the distribution system for *GeoBasic*. As yet it's still only available through RUN

magazine in the states. Australian *GeoWorks* distributors Computermate suggest *GeoWorks* has completely washed their collective hands of it. So if you want it (and it's not a bad BASIC), just make sure you understand the US to \$A conversion rate when you place your order by Credit Card, and be prepared for a 10 week wait (I think they swim each copy out individually).

To graphics and I keep hearing grumbles about lack of graphics for *Geos*. Wrong! If you have *Newsroom ClipArt*, *Print Shop* and/or *Printmaster* then you have the makings of a fine graphics library. You'll need Graphics Grabber from the Despack disk to convert the graphics over.

If it's bitmap graphics from *Doodle!* or *Koalapaint* you're looking to convert, there's a program around called *Import Runner* (looks like another RUN mag special though). With this program you can convert either *Doodle!* or *Koalapaint*, also *MacPaint* graphics and RLE format files.

And word is that a few scanners are now available for the 64, which would give you the ability to convert photographs to bitmapped graphics (Has anyone seen or used the *HandyScanner64*?).

If anyone has printed examples of 64 scanned or digitised graphics (particularly used within *Geos*), drop a sample in the mail, along with any queries or comments to:

The Geos Column, c/- ACAR, P.O. Box 288, Gladesville, N.S.W. 2111 (Don't forget a stamped SAE if you'd like a personal reply).

Until the Ides of March pass, or until the April Fool comes along, it's Ciao for now (in *Geos* format of course).

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The C64 Column

by Owen James

Last month we learned production of the C64GS, the console version of the C64, had ceased. Commodore in the UK (the only place the GS was released) were originally expecting sales of around the 100,000 mark in the first year, but in fact only managed slightly more than 15,000. Prices of the GS have now been reduced considerably as Commodore faces a massive stock surplus.

On the plus side, the GS has created some good for C64 gamers. The 'cartridge-only' unit prompted some excellent new game releases in the much preferred cartridge format, which is compatible with standard C64s. Let's hope for more game releases in this format.

3.5 Inch Drive

TIB, a UK company specializing in C64 hardware and software, have announced the release of a 3.5 inch disk drive for the C64. The unit plugs straight into the user port for a fast 10.67k per second transfer speed. Each 3.5 inch disk can hold up to 720k of data.

Interestingly, the TIB unit doesn't use Commodore's 1581 disk format, as you might expect it would for the sake of compatibility. Instead, it uses the popular MS-DOS format as found on IBM clones. This will add the advantage of simple file transfers to and from the MS-DOS world. Several C64 games are already available in this format with the promise that more are on the way.

With 3.5" floppy disks fast becoming the standard of portable storage for computers, it appears that most software houses will need little prompting by Commodore to begin producing games in this format. There has even been

speculation that this move is wanted by Commodore to encourage a wide range of 3.5" software before the release of the muchly rumored C65. This could prove to be a problem, however, if the C65 is released with a 1581 drive built in, as was first predicted. Having two incompatible disk formats available for the C64/65 could lead to confusion in the marketplace.

With little comment from Commodore, it'll have to be a case of "wait-and-see".

Will We See the C65 ?

On the topic of the C65, we hear little word of any definite plan for it. *Zzap!-64*, a popular UK gaming magazine, has been running numerous articles and publishing a great deal of reader mail about the fabled machine. Billed as "the C64 of the nineties", its possible target would be to replace the C64 as an entry level computer. If the price was right and compatibility was guaranteed then perhaps it could be another success story.

With prices of the Amiga 500 tumbling to as low as \$500 new, and the release of the A500 Plus, it leaves very little room for another computer. What are your views? Should the C65 be released? How many of you would consider upgrading? Let's hear what current Commodore users have to say.

C64/Games Club

The C64/128 Games Club is now up and running. For a small postage fee you get a regular newsletter filled with news, info, tips, pokes and help for all kinds of games. Public Domain disks are avail-

able to members, and there's even a 'Message Mates' section in which you can contact people with interests similar to yours and trade ideas and help.

For more information contact Scott Logan at 9 Colington St, Mansfield, QLD 4122, or leave a message on their official BBS - 'Club-64 BBS' (07) 808 3839 (Thursday to Sunday after 9pm).

Also for gamers, Steve Hedges has produced a series of disks filled with cheats, hints and tips for hundreds of games. Available so far are two disks for Action Replay owners, two for general hints and tips, two for reset-switch owners and two for tape drive users. A free disk comes with every three ordered. Disks are priced at \$5 each plus \$2 for postage and handling for up to ten disks.

Steve is also involved in 'C64/128 Friendz & Contax'. It is a mail based club offering help and addresses for users to meet other C64/128 users. Plans are under way to take the message club worldwide. If you'd like more information on 'Friendz & Contax' or would like to order the disks you can contact Steve Hedges at 11 Dunsford St, Whyalla Stuart, S.A. 5608.

If you're a GEOS user wanting more support, geoNEWS might be just what you're looking for. GeoNEWS, the official journal of geoCLUB, is a monthly newsletter filled with hints, tips, product information and even disks. It is an English publication, but if you are interested you can get in touch with the Australian contact, Peter Hunt, at 70 Betulat St, Doveton Vic 3177.

Thanks to the following people for contributing to this month's news: Marc Walters, Scott Logan, Peter Hunt, Andrew Gormly and Steve Hedges. And if you've got any news or information that you think the rest of us might be interested in you can drop me a line care of this magazine.

Letters

Which Wordprocessor

Robyn Denton, of Gympie QLD, writes:

"Dear Owen, Could you please tell

me which is the best word processing program to suit a C64 with a 1541 disk drive and a MPS 1000 printer.

"I want the word processor primarily for writing stories, poems, articles and letters (including high-quality job applications), as well as some display work (such as making up resumes etc).

Within the last few months I've written to around 20 software suppliers throughout Australia and, even though less than half of these have replied to date, I have been able to narrow my choice down to one of the following three programs: *Fleet System 2+*, *Paperclip III*, *Word Writer 6*.

"I would like the program to perform as many of the following functions as possible: Bold, Italics, Underlining, Centering, Justification, Tabulation, Margins, Headers/Footers, Page numbering, macros, Mail Merge, Thesaurus, and Spell Check, variety of lettering styles and sizes, full-page (80 column) preview."

GeoWrite would be more than capable of performing the functions you have outlined (apart from macros). Unfortunately it's a little on the slow side, but very easy to use.

If you have decided against *geoWrite*, then I'd recommend *Word Writer 6* as your best option. It provides just about everything you require but sadly has no thesaurus. A little more difficult to use than *geoWrite*, but it more than makes up for it in sheer power. I wrote a full review of it in The ACAR last year.

Ultra BASIC Problems

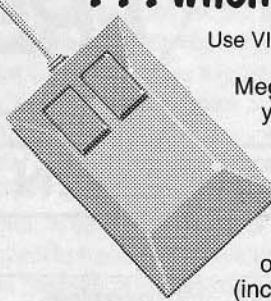
Glenn Jones, of Buderim QLD, writes:

"I have a few problems in BASIC that I need more than a little help with. I am trying to write an adventure game with "Ultra-BASIC", because it is fairly easy to use Hi-res graphics with. I bought from a friend of a friend an original, but he didn't have the instructions (something about a dog!?), but what I want to do is two things,

"(a) when you load UB it comes up with its own title screen and then READY. What I want to do is get rid of the title screen and go straight on to

... when you're thru playing games

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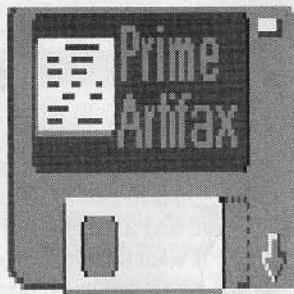
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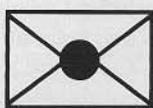
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loading the rest of my program. Does anyone know how?

"(b) I wonder if anyone knows how to put a picture from paper onto the screen without using a scanner. I have tried grids but can't get one the right size.

"Also, with Ultra BASIC I created a screen in Hi-res, but I want to be able to have a bar going over the present choice. How do I overwrite a Hi-res image that is already on the screen? And how do you make use of the disk drive from within the program? If my program goes over the 64's memory limit I want to be able to load the needed parts over the top of irrelevant ones."

I have never used Ultra-BASIC, so I'm afraid that I'm not much help. Perhaps if you contact the publisher they might be able to help you out with a manual (if they believe the "dog ate my instructions" story!). Can anyone else offer some help?

C65 Specifications

David Stacey, of Hallett Cove SA, Writes: "Dear Owen, First off let me congratulate you on bringing a first class column to C64 users. I have found that it has helped me many 'programmable' times. After looking at an Amiga manual I noticed that it had a 'SAY' command and since have got my C64 talking with the same command! [OJ: Huh? Howzat?]

"I have heard a rumour that the C65 (when it is released) has graphic capabilities of the Amiga! I'm not quite sure if this is true. What are your views on the C65? Could you keep informing fellow C64 users about this?

"In future issues of ACAR could include a routine to scroll a message across the screen. I have done it but it's very coarse. Is there a way of doing it 'fine' without machine code?

"Lastly, I have *geoWrite* but it's so awful to use! It's too slow and my printer isn't compatible anyhow. I am after a word processor that is like *geoWrite* but faster. Would *Word Writer* fit the bill? I'm not worried about prices. I also have *Mini Office II* which isn't good enough. It doesn't have many functions, and the on-screen type can't be changed so you don't know what the document will look like once printed."

If the rumours are true then the C65 will actually have BETTER graphic capabilities in at least one area (it has more bitplanes available on a single screen). It won't have animation capabilities quite as good as an Amiga (it would still be based on a 6510, though a slightly faster model than what we have currently, I hear) but will make use of 'custom' chips, similar to what makes the Amiga stand out from the crowd.

As pointed out in this month's news, the C65's fate is still undecided. Yes, it has been developed, but then so have a lot of other products that have never been released by Commodore.

As for my views? Well, the C65 could have great potential. Clearly there is a need for a computer that is both easy to use and affordable to fill the 'entry-level' niche, and I think we all have to admit that the C64's capabilities, though excellent in its time, are now outdated.

What I would like to see is a computer that can run current C64 software, has the ability to run even more powerful software if required, can be expanded as the need develops, and is affordable. Will the C65 do all this? Maybe. I'll keep you informed.

It seems that everyone that's seen a demo wants to create a scroller. Bad news, I'm afraid. There really is no way of creating a smooth scroll from pure BASIC. It just isn't fast enough. If you're not a confident machine language programmer then there's still hope.

There are numerous utilities around that can create an interrupt driven scroll for you to patch into your BASIC code. Most are very smooth and some even allow you to set options such as speed, colour flashing, character sets and more. I wrote a simple ML scroll routine several years ago. While it was smooth, it really looks amateurish compared with what's around today.

If you, or anyone else, would like some scroll utilities and other assorted demo creation programs then send me a cheque or money order for six dollars (made payable to Owen James) and I'll get a disk out to you. Watch out in the next month or two for an interview with the guys who actually create the demos that impress so many.

As a word processor, *Word Writer* is one heck of a lot faster than *geoWrite*. It provides roughly the same capabilities, but is not quite as easy to use. You mention that price is not a problem. In that case, have you considered the Turbo Master CPU? It makes all of your programs (including *geoWrite*) really fly.

What type of printer do you use? You can create very high-quality drivers for almost any type of dot-matrix printer using a utility named Laser Matrix. Laser Matrix is available on the geoPD disk which is available now.

The User Software Disk, PD1 and geoPD are all still available for six dollars each. Send a cheque/money order (made payable to Owen James) to me care of The ACAR, PO Box 288, Gladesville 2111.

Next month, all the latest news and views plus the return of Tips and Tricks. Catchya then!

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So what do we think of it here at ACAR? Hopefully, we'll tell you next month as we run a head to head comparison with *Lotus 2*. Stay tuned.

For more information contact Questor on (02) 662 7944.

Amazing Hints Disk Update!

Adrian Jenkin has been hard at work updating the ACAR Hints Disk. The

disk is right up to date, and now contains hints and tips for 258 games. In fact, you can't pack it much tighter - the disk is crammed full with 1,222,653 bytes of useful information.

As a bonus, the ACAR Hints Disk also includes complete maps for *The Bard's Tale*. The disk auto boots, and includes full text and graphics display software - we've come a long way since version 1.0!

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Simple. Send a blank AMIGA DISK, a stamped, self addressed envelope for return postage, and a cheque or money order for just \$5.00 to Phil Campbell, PO Box 23 Maclean NSW 2463.

Amazing EA Olympics Giveaway

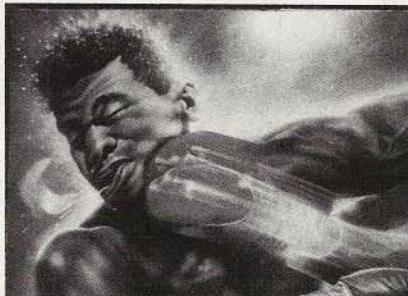
Next month Electronic Arts and ACAR will be celebrating the '92 Olympics with a huge "CHAMPIONS Give-Away." You can be the lucky win-

Mandscape March Competition The Final Blow - Amiga and C64

Here's the latest and greatest boxing simulation from the Sales Curve, programmers of the wonderful *SWIV*!

You might have played the arcade version - the conversion is just as good! It's a game for one or two players, pitting you against 10 giant sized sprite based boxers.

Mandscape are giving away three copies of the Amiga version, and two



ner of one of 25 copies of the "Champions" compilation for the Amiga and C64.

Watch the April issue for details.

Due for release this month

Watch out for these forthcoming titles from Questor, due for release in the next few weeks: *International Sports Challenge* (C64 disk and cassette), *UMS II Planet Editor* (Amiga), *Special Forces* (Amiga), and the long awaited *Megatraveller II* (Amiga).

Pactronics continue Budget Bargains

Pactronics have now solidly established themselves as budget-market leaders in the world of Amiga games. Their range of re-releases is growing - sure, you might get a feeling of déjà-vu when you look through their catalogue, but the prices are certainly right!

Mandscape January Winners

Well, the January *Lotus Turbo Esprit 2* Competition really sorted out the men from the boys - oops. That was sexist, I mean, the grown up persons from the young persons.

All you had to do was write a five hundred word story based on a computer game theme - and there were far fewer

copies for the Commodore 64.

So what do you have to do to win?

Well, I reckon it's time for another letter scramble - so see how many words you can make with the letters from THE FINAL BLOW.

Scrabble rules apply - no proper nouns or abbreviations, thanks. Put your list in an envelope, write your name, address and final tally on the back, and send it to March Competition, c/o Phil Campbell, PO BOX 23, Maclean NSW 2463.

Get your entries in soon - the competition closes at the end of the month.

entries than usual. What's wrong? Can't ya' write stories or sumpin?

We do, however, have some winners. And some are exceptionally talented.

Take, for example, Robert Iwancz, of St Albans, Victoria. His five hundred word limit spilled over to about twelve pages, with an incredible story called "Life, The Universe and Computer Pro-

grammers." Great stuff, Robert - first prize is on its way!

Second prize goes to Danny Wade of Kingsbury with a short and humorous story about blonds and red sportscars.

Tim Absolon, of Browns Plains, Qld, is also on the winners' list with "A Fish Called Ichneumon Bacillus" - nice effort.

Michael Fraser, of Austins Ferry, Tas, submitted "I'm Hungry," a neat little story about his computer's revenge.

And finally, twelve year old Glenn Finnane of Denistone NSW wins a copy of *Lotus* with his meandering tale of adventure and excitement.

Congratulations to you all!

Entertainment Letters

Problems with your latest game? Peeved by a perplexing problem? Or maybe you just want to sound off. Well, here's your chance. Write to Phil Campbell, Entertainment Mailbox, PO Box 23, Maclean NSW 2463.

Keep your letters short and to the point - and relevant to the entertainment section!

Collectors Item?

Dear Phil, Is my January ACAR mag a collector's item because of its many up-side-down pages? Will it earn me millions of dollars when I sell it to some crazed collector? Or is it just a bad printing error?

Anyway, the mag was excellent with its new look cover and layout. The games reviews were top class. Keep up the good work.

Ben Toyne
McDowall Qld

Ed: Yep, your copy of ACAR will certainly be worth big money in a year or two. Store it carefully in a plastic bag, and make sure you don't get any dirty finger marks on the pages, and in a couple of years it will be worth two million bucks ... oh, wait a minute. You've read it already. Bad luck, that means it'll be worth a fair bit less. But you'll probably still get \$3.50 or so.

Glad you like the new look - so do we.

Jumping Jackson Jives Again

Dear Phil, I have a copy of *Jumping Jackson* myself, and I don't experience the same problems that Stephen Eames wrote about in January ACAR. If he would like to contact me I'm sure that I could help him out.

Malcolm Harvey
39 Eureka Cres
Nerang 4211

Ed: Thanks for the offer, Malcolm. I'm sure if Stephen is reading this he'll be in touch.

Larry Problems

Dear Phil, I'm having problems with *Larry II*. I am stuck on the plane and when I get up to walk about two waitresses come in from either exits and block my path. When you sit down they leave but when you get up again the same problem occurs. Could you please tell me how to move about the plane without being stopped.

Greg Flaherty
Dorrigo NSW

Ed: Last time I looked, the Leisure Suit Larry games looked very much like Adventures. So when are you guys going to learn, this is NOT Adventurers Realm. Problems like this go to Mike Spiteri, and his address is printed very, very clearly at the start of the Realm. Sure, I could be nice and just post your letter on to him, but it would be s-o-o-o much nicer if you could get it right.

Anyhow, if you're lucky, someone may be able to help - and the answers will be printed in The Realm.

Larry Problems 2

Dear Phil, I'm having trouble with *Larry 2* and *3*.

In *Larry 2* I can get up to the bit when Larry jumps in the life raft, but I can't get any further. And in *Larry 3* I can't get

started. If anyone can help me or would like to send a hint sheet for the Amiga, please write to me at the address below.

Nathan Smith
40 William Wilkins Cresc
Isaacs, ACT 2607

Ed: What can I say? Two in one month. Nathan, read my lips. AAAaaaarrgh. Now read the reply to the letter above. Then write very nicely to Michael Spiteri, and he may even be able to send you a hint sheet.

Rainbow Islands

Dear Phil, In *Rainbow Islands*, how do you kill the big Vampire on level 12?

We get the ACAR mag every month and I like reading your entertainment section. Thank you very much.

Marie Parker
Inala Brisbane Qld

Ed: At last, a problem we can deal with!

Keep watching these pages, Maree, and someone is sure to send in some advice to help you out with the big guy.

C-64 Hints and Tips Wanted

Dear Phil, Firstly let me say that the entertainment section is brilliant.

However, how about some C-64 hints and tips? My main reason for writing is a plea for help.

Could someone please tell me how to complete the 2nd level of the *Last Ninja 3* (System 3). Thank you.

H.K. Miller
Stuart Mill, Vic

Ed: You'll be pleased to see that the Immortality C-64 Hints page has returned this issue. However, Damian Caynes reports that very few readers are bothering to send him any hints. Why is this so? Anyway, with a bit of luck there's someone out there who can help you out with *Last Ninja 3*. Stay tuned.

Beauty in The Eye of the Beholder

Dear Phil, Can you please, please do a review of *Eye of the Beholder II*? I saw it in a shop at the mall. If you did I would buy your mag every month.

*Ben Gosling,
Spence, ACT*

Ed: I'm holding a copy of *Eye of the Beholder II* in my hot little hand. Only trouble is, it's the PC version! But keep an eye out - when we track down resident RPG expert Andy Phang, we'll have a full review in no time. (Where are you Andy?)

ENTERTAINMENT **HINTS & TIPS**

Thanks to all those readers who have been submitting hints and tips on disk. It sure saves a lot of work this end, and in return you get a free copy of the ACAR Hint Disk.

Just send your tips in ASCII format, with a stamped, self addressed envelope for the return of your disk.

To readers who have submitted tips on paper and asked for a free disk - tough luck! Mind you, I'm still happy to get 'em ... but to get the disk, you'll have to send a disk. And remember the address - it's Phil Campbell, PO Box 23, Maclean NSW 2463.

David Thompson congratulates us on a fine magazine, and sends the following helpful hints.

Rainbow Islands

Here's an answer to Mrs. Levack's problem in ACAR, October 91.

To kill the spider, start just to one side and facing towards him. As he goes down, jump up and fire at him. He will then jump towards you - run underneath

Getting Your Just Deserts?

Dear Phil, In *It Came From The Desert II* I have opened the safe and got out of hospital, but I have no idea of what to do next.

John

Ed: Sorry, John - couldn't read your lastname. But that won't stop us searching for a solution to your problems. I haven't played *Desert II* yet, but I'm sure there's a reader somewhere who can help out.

Swap Shop

Dear Phil, I am trying to get some C64 penpals who like adventure games to swap games and hints and tips.

Matthew Maher

23 Pelsart Ave

Cranebrook NSW 2749

Ph: 30-4992

Ed: Keep an eye on *The Realm* adventure swapping service. Mike Spiteri is doing a great job of putting swappers and swappees in touch with one another, though he won't encourage the swapping of games that are still on the market. We'll print your letter here too, but make sure you drop Mike a line.

him (and under your rainbow), turn, jump and shoot as before. If you have multiple rainbows, you'll find that you land on these, causing even more damage. Continue like this and he will eventually die.

Colleen Broadlen offers another perspective on getting rid of Spidey.

The way to get past the spider is to stand on the first brick on the right hand side and keep shooting until the spider comes down. As the spider comes through, jump off the brick and run under the rainbows, when the spider comes down over the rainbows jump up to hit the rainbows this will be like shooting with a lot of them. Keep going to the left corner where you will be safe as long as you have been to the right hand side first.

Remember building up rainbows and jumping on them will help get you through a lot of the islands.

Super Cars

To have a fully optioned car for free in the first race of any level, go to the garage, buy what you can afford, abort the game, you'll find that in the next game you still own everything and have all your money back. Do this as many times as you like.

Jumping Jackson

Finally, some more level codes for good ol' JJ are NOISES, FUNK, SYNTHE, says Dave.

Eye of the Beholder

Jim Fang, of Brentford Square Vic offers the following handy hint.

To open the spider doors, look carefully at the frame of the doors. There should be switches on the side of most doors. Just click all over the frame if you can't see it.

The Detectives

Mark Sorensen, from Wantirna, Vic, has help for players stuck in the C64 game *The Detectives*. The combination to the safe (located behind the picture in the drawing room), is 210319, which was engraved onto the silver tray which can be found in the kitchen cupboards.

Secret of the Silver Blades

To stop being attacked by Assassins, writes Ben Gosling, of Spence ACT, kill the Dragons at the Well of Knowledge, then go to Marcus' Place and kill the assassins.

Battletech

Here's some help for Kevin Newman in *Battletech*. The cave is south west of the inventor's hut, but it is on an island just off the coast. You just have to walk into the water at the right place to get across, says Mark Demellweek, of Leeton, NSW.

Strangely, Peter Georges offers some conflicting advice. He says Kevin should be looking SE, not SW. First answer the inventor's questions, says Peter, and he'll repair the holodisk. He'll also tell

you that the starleague cache is to the SE in a cave on the island.

Venus the Flytrap

This is a game full of sticky situations - one I never got very far with. But to get to the secret bonus room, all you have to do is as follows, says Kerry Adams, of Ingham NSW. Get to the 2nd world of the Frozen Wastes where one opponent bounces up and down on the upside down arrow pad just before a big cannon. Kill the opponent then jump over the arrows and fall down the edge on the right.

IMMORTALITY or how to live forever in games!

Hello and welcome to Immortality!

Next month we'll be bringing you more C-64 news, with regular updates on the C64 world! Hopefully this will break the myth that the C64 is dying.

Well, not a huge response this month, but three readers are better than none I guess.

These pokes are from Nigel Stewart and Andrew Gormly - thanks guys!

An apology goes out to Stuart George, but I don't have enough room for your complete game solutions for *Vendetta* and *Tusker*, but thanks all the same.

Defender of the Crown

This is one of the few excellent Amiga games that have paled in comparison to their C64 counterpart!

Outstanding graphics and sound were not the only reason however, the tactical element was much improved. It has since been outdone on the Amiga by *Kingdoms of England*, but when will we see a C64 version?

If your kingdom is after free armies and castles then once the game map has loaded POKE 6839,165 : POKE 7052,165.

Rick Dangerous I and II

Matthew Kessell says that if you hold down HELP for at least ten seconds in the original *Rick Dangerous*, you'll become invincible.

Meanwhile, Powerhouse Nick reminds us that typing the tasteful line "Burn in Hell" on the title screen will give unlimited lives in *Rick 2*.

Wizball

Also from Matthew Kessell comes a little advice for Wizball. In the Wizlab, you can select powers from the top of the screen. If you press the button with the

Nebulus

Undoubtedly one of the best (and strangest) platform games ever released on any computer. After almost two years of licensing troubles the superb Amiga sequel has finally been released, hopefully a C64 version will be released in the coming months.

If you are in need of infinite little green wobbly guys, POKE 32979,181.

Quedex

Talking about balls (no you weren't!) here's a funny ball game by ol' Stavvy Fasoulos. Sadly the mighty Stavros, pioneer of the C64 and programmer of games such as *Sanxion* and *Delta*, has been lost to the Amiga since his service in the Finnish army. His first game, *Galactic*, is another damn hot shoot-em-up and is soon to be released.

To stop the clock POKE 11572,181.

Storm Lord

A game where you control a bearded old man that hops around collecting large breasted naked maidens. Makes you wonder about the morals of a programmer, eh? Heh.

POKE 23858 - for unlimited old guys.
POKE 23837,96 - for invulnerable old guys.

Thing on a Spring

Oo-er! Well, if you don't want to worry about oiling up your spring-thing, POKE 22231,0 for an infinite amount!

Barbarian II

You've drooled over the poster, now

power you want, you'll start off with it immediately after you die. PS, says Matthew, please send me an ACAR hints disk.

Sorry Matthew - to earn a hints disk, you have to send your hints on disk. I'll send your disk back with a free copy of the ACAR disk - a reward for saving me the trouble of re-typing your tips!

Gods

Powerhouse Nick offers the following passwords for Gods. Level 2 - ADV. Level 3 - MAO or EZZ. Level 4 - BLA.

play the game! Seriously though folks, this is definitely the best hack 'n' slash ('n' bouncy bits) game ever.

POKE 35441,165 for infinite barbarians.

I Ball II

Original name, eh?

Reset and POKE 38895,165 for infinite balls and SYS 34050 to restart.

Ramparts

Not a patch on the US version of *Rampage* but certainly more enjoyable than the UK version. Surely a must buy if you're into 20 foot knight-smash-castle-em-ups!

POKE 13931,96 and SYS 3077 for infinite Sir Giants.

Robocop

Ah, never before have me, seen a conversion as bad as thee. 'Scuse the horrible poetry, but the only other way to describe this game is with a sick bag!

Well, if yer plain outta baby food POKE 44416,0 and SYS 32768 to give Robo unlimited energy.

Peter Packrat

What's a packrat? Is it anything like a packed lunch? And if so, will it replace the humble Vegemite sandwich as a staple of the average Aussie's diet? Like packrats through a cheese grater, so too are the days of our lives.

POKE 53214,173 and SYS 32768 for infinite packed lunches, er, rats.

See you next month: Damian Caynes, 4 O'Connor Dve, Bray Park, NSW 2484.

MICHAEL SPITERI'S

Adventurer's Realm

Greetings, adventurers! Welcome once again to the Realm, the only place in the magazine where you can drown your adventure sorrows, and be assured that somewhere, somehow, someplace, someone is considering your plight.

The Realm is the place to send in your woes, your problems, your joys, your spicy news. We only have one criteria for acceptance, and that is your letter must be adventure, rpg, or wargame related.

Stuck? Don't Panic! The following

services are available:

1. A huge network of Clever Contacts who would love to read and answer your problems. Write to the Realm for a complete listing, or get the January issue.

2. Free Hint Sheets for most of the popular games around are yours for the taking. Write to the Realm.

3. Troubled Adventurers Dept - a part of the Realm for displaying your problems as a last resort! Write to the Realm.

For adventure and wargames:

Adventurer's Realm
12 Bridle Place
Pakenham, Vic 3810.

For role playing games:

Realm's Dungeon
P.O.Box 315
Maddington, WA 6109.

No matter where you write to, if you anticipate some sort of reply - a stamped self addressed envelope is compulsory!

Computer Adventure Games - Hints & Tips : The Second Official Adventurer's Realm Hint Book



Now available in newsagents across the country. This sequel contains hints and tips for new Sierra games such as *Kings Quest V* and *Space Quest IV*, as well as *Monkey Island*, and the *Bards Tale* collection. *Pool of Radiance* is there, as is *Conquests of Camelot*, *Larry II and III*, *Beyond Zork*, even *S101*:

Sorcerers Get All The Girls. In fact, over 25 games are covered in this edition, plus heaps of mapping pages to assist you in your quests. One of the cheapest hint books in the country - look for the friendly dragon on the cover!

The first hint book is still available via mail order, however stocks are running out fast. Ring Darrien on (02) 398 5111 to order your copy. It contains hints for over forty of the world's most popular adventure games. Only \$9.00.

Free Hint Sheets

* NEW HINT SHEET *

The choice widens with the addition of *Pool of Radiance* to the list of free hint sheets you can write away for.

Thanks to the many adventurers who contributed to this new hint sheet - I am sure it will be a popular one!

Choose up to four hint sheets from the list below, and enclose a stamped addressed envelope.

Send your request to: Free Hint Sheet, 12 Bridle Place, Pakenham, Vic 3810.

Zak McKracken, Maniac Mansion, Indy, Zork 1,2,3, Bards Tale 1,2,3, Guild of Thieves, Jinxter, Pawn, Fish, Uninvited, Deja Vu, Hampstead, Hitchhikers Guide, Faery Tale, Borrowed Time, NeverEnding Story, Dracula Pt2, Hobbit, and the Clever Contacts List.

Problems, Problems & more Problems or the **Troubled Adventurers Dept.**

Due to the amazingly informative Clever Contacts, this part of the realm is shrinking and shrinking. However, problems are still trickling through - usually the ones that baffle even the smartest Clever Contact.

The *Ultima* series have always been a cause for late nighters, and *Ultima 5* is no exception. Dean Taig is one who has been attacked by the Ultima Bug. One particular problem is the harpsichord! How does one play it, asks Dean! Could VILUS VILUS help Dean through the Dungeon of Despise, and LUM and

BEH might just be the way for humility and justice. Dean will understand such gibberish, courtesy of Mark Harris in Bondi Junction.

Steve Williams of Gosnells in WA is stuck in a game called *Hugo's House of Horrors*. An old man is troubling Steve with a question, and Steve has so kindly delegated the question to the Realm. Where does an Asian live? That's the question! Hint: Not in a Wardrobe (what would an Asian be doing in a wardrobe, I wonder!)

Jim Waller of Ferny Grove in Qld

got a \$5 bargain at K-Mart, but only got the disk (Jim's no pirate ... proof of purchase was sent to the Realm). He would like the co-ordinates of the space station to input into the computer of the cargo shuttle. The Realm's solution doesn't mention anything about co-ordinates, so can anyone help Jim out?

Simon and Parker of Dural in NSW are tackling *Spirit of Excalibur*. They are stuck in Episode 2. It seems Lancelot has gone missing. Anyone know where? The two blokes also want to know if there are any forces other than Galahantine at Leicester, Villars at London, Baldric at Arundal, and Palomides at Dover that they can muster (isn't that enough? How about Kirner from Victoria, or Keating from Canberra. I suppose they did ask for forces ...)

Jim Waller is stuck in *Adventure* from one of the early Fred Fish PD disks. He is stuck in the small icy chamber at the end of the ice tunnels and cannot exit from there. He is also unable to open/enter the safe in Peel Grunt room.

Finally, Andrew Hay of Mt Isa in Queensland is not having a nice time playing *Mean Streets* (on a C64). He cannot figure out how to get the passcard out of the ape's cage in the scientist's lab.

Help, Help & more Help or the **Smart Adventurers Dept.**

If you were stuck some time back, then the solution to your problem could be here! Many thanks to all who wrote in with help for troubled adventures.

Heath Kirby-Miller was stuck in some unknown oldies in the January issue, and I was very doubtful that answers to those problems would be sent in. However, Realm Regular and Clever

Contact, Dorothy Millard of Croydon, who has built up a huge collection of hints, tips and solutions for almost ever C64 adventure, came to the rescue instantly with help for Heath. Others may benefit too from this swag of hints.

Game: Runaway

Help: To get the key in the jar of acid, you must tie the magnet (from behind

the curtains) to the handle using the elastic, then GET BLACK KEY WITH HANDLE (you don't actually need the jar - just the key that was in it).

Game: Cranmore Diamond Affair

Help: Ask the Commissionaire with the scar on his face about the guard to get the timing right when entering the Security Room. With the sealing wax from the Post Office make an impression in the Security Room then take it to the locksmith. On the hotel roof, TIE ROPE TO GIRDER, then go down to find another hotel room.

Game: Quest of Kron

Help: At the Coast of Sark, you must WAIT. At Refugee Rock, go IN to a small cave to find the rope then go to NW Coast of Sark and throw the rope. You can then climb up a ledge where you should release the eagle.

Game: Astrodus Affair

Help: Feed the creature the apple.

Rotate plating on the generator for full power. To get past the security beam you must crawl.

Game: Heath Still Stuck?

Help: Write to Dorothy Millard, 12 Venetian Court, Croydon, Vic 3136.

Another Realm Regular and Clever Contact is David Marjanovic who helped out two chaps who were stuck in *Deja Vu II*, back in December. The solutions were printed in the January issue, however I can't see any harm in printing David's text.

Game: Deja Vu II

For: Tony Finn and Dale Priem

Help for Tony: Go through Ace's wallet and you will find a newspaper clipping on one of Ace's friends - Rudy. Go to the casino, examine each dealer and you will find Rudy. Show him the newspaper clipping and the odds on winning will be improved. You will need to visit the laundry later via the casino's laundry. When at the laundry the two thugs will tie you up. To untie

yourself, use the nail on the crate. Go upstairs, open the door and then go back and hide in the bin. This will fool the thugs and give you sufficient time to search the laundry.

Help for Dale: After searching the bodies in the morgue, go back to Chicago train station and travel to Las Vegas. At the morgue you would have found a claim ticket. Use this at the Las Vegas train station claim desk. From there it is back to the casino and a visit to the laundry.

Heath Kirby-Miller, whose name has already been mentioned, has used his psychic powers to attempt to solve an unmentioned problem in the January issue. Heath writes ...

"I am writing to offer some help for Selim Ramis on *Labyrinth* (although he doesn't state what his problems are). However, because the first part of the game involves having to enter the theatre to start the actual game, I'll assume that this is where he is stuck. I can offer

him these hints and tips:

As a general hint, always collect money.

Firstly, go home and take the camcorder. Now go to the theatre and give a dollar bill to the ticket lady to get your ticket. Now go to the popcorn stand and buy some for yourself. Take the nickel the woman drops. Next, enter the theatre that lies east."

Regular Realmer and Clever Contact Peter Georges has sent in some help for Martin Witchard, who back in January was on the brink of solving *Cadaver*.

Game: Cadaver

Help Offered: To get the key to the last room of lever three, take the chalice to the king, drop it on the font, then give the full chalice to the king. Get the key and go north. Drop through the pit in the centre of the room and go south then west. Insert the key into the keyhole and go west. Then climb the stairs to the fourth level.

Adventurers' Realm's Clever Contacts

Mark Harris, the hints whiz from Bondi Junction in Sydney, has extended his Clever Contact service to also become a Hint Hotline. His number is (02)3694920. However, there are time restrictions that must be adhered to. You can ring Mark between 8am and 11am during the day, and between 7.30pm and 10.30pm during the evening. Definitely no calls on weekends. Mark has also added over 30 adventure games to his extensive list over the Christmas period.

New clever contact is Jim Waller of 35 Kanturk Street, Ferny Grove, QLD 4055. Jim too can offer help in a huge range of games.

Paul Andrews of 10 Sovereign Hill, Hallett Cove, SA 5158 is already a clever contact, but can now add *Zork I* and *Castle of Mydor* to his list (that already includes *Bastow Manor*, *Island of Spies*, *Cavern Adventure*, *Temple Curse*, and *Murder on the Waterfront*).

Another new clever contact is Darren Mummery of 28 Cunningham Court, Golden Grove, SA 5125. Darren can offer a different kind of service, as he explains ...

"If anyone is interested I can send them a high level, fully equipped group of Adventurers for *Pools of Radiance*, *Curse of Azure Bonds*, and *Silver Blades*, on disk to start their quests. Each group has completed each of the above games and has with them all equipment from previous games. All groups have high levels in their field. Anyone interested in obtaining a copy should send me a formatted disk with a self stamped addressed envelope and name the game. (Amiga).

Darren can also offer help with *Labyrinth*, *Bastow Manor*, *Dan Dare*, and other older C64 adventure games.

Clever contact Peter Georges reports that 90% of the people who write to him are C64 users, and that most of

them are stuck in the *Zork* series!! Not bad for a very, very old game!

Another game that is troubling adventurers is oldie *Castle of Terror*. Does anyone out there in adventureland know the exact commands to use to kill Drac?

David Marjanovic of PO Box 342, Ravesby, NSW 2212 has added more games to his list. Now his listing covers *Space Quest I,II,III*, *Larry I,II*, *Deja Vu I,II*, *Shadowgate*, *Guild of Thieves*, *Zak McKracken*, *Azarak's Tomb*, *Manhunter I,II*, *Operation Stealth*, *Indy*.

Finally, clever contact David Stacey is handing in his boots after answering hundreds of letters for the clever contact service. Thanks David for doing a great job as a clever contact, I'm sure you've helped many adventurers to sleep easy.

To those wishing to use the Clever Contacts service, please make sure you enclose a stamped addressed envelope and/or sufficient funds to cover your requests.

The Dungeon

by
Kamikaze Andy

1992 marks the Tenth Anniversary of one of the smaller but highly respected computer entertainment publishers around today. That company is Interplay Productions. Ever since its inception a decade ago, it has been Interplay's goal to produce exciting, stimulating software for the computer user, and looking at its record one can hardly dispute this.

Every software firm seems to have some driving force behind it, from Richard Garriott (Origin) to Roberta Williams (Sierra) to Bill Gates (Microsoft). Interplay's maestro of ceremonies and all-round knuckle cruncher is founder, President, and head honcho Brian Fargo.

From humble beginnings as designer of *Demon's Forge* (a text graphics adventure with an amazingly complicated parser), Fargo has since seen his company blossom to produce hit after software hit.

At the start, Interplay built on Fargo's adventuring roots, releasing "classic" text-graphics efforts like *Tracer Sancion*, *Mind Shadow*, the classic *Borrowed Time*, and one of my personal favourites, *Tass Times In Town*. All were released under the Activision label - back then Interplay was still developing in size and reputation. The Amiga community owes quite a bit to Fargo's team, as Interplay were one of the first to get behind Commodore's brainchild with excellent conversions of *Borrowed Time* and *Tass Times*.

The big time finally arrived courtesy of one Michael Cranford, who managed to merge role playing and 3D graphics into a product called *The Bard's Tale*. Instantaneously hailed as a classic RPG, *The Bard's Tale* was innovative, extremely challenging, graphically exciting (in its original 8 bit version as well as its eventual 16-bit Amiga conversion), and via the main character (The Bard, naturally!)

provided some memorable musical scores (excellently executed on the Amiga).

To date, the *Bard's Tale* trilogy (comprising of the original *Bard's Tale*, its sequel *The Destiny Knight*, and part III titled *Thief of Fate*) has sold over half a million copies. With *The Bard's Tale Construction Set* on the shelves, and *Bard's Tale IV* on the way, it looks like the Bard (and Brian Fargo) will be singing all the way to the bank!

'The tenth anniversary of Interplay Products, who produce the *Bard's Tale* Series'

As soon as the *Bard's Tale* became a hit, Interplay began to shift its direction from adventure games to RPGs, evidenced by its next release. *Wasteland* combined elements of *Bard's Tale* and *Ultima*, and became another huge success both critically and commercially. Unfortunately this classic RPG has not been converted into Amiga format, but we live in hope!

In the latter half of the 80s Interplay had moved from being an Activision affiliate to Electronic Arts' distribution program, but towards 1988 it felt the need to assert its independence. Fargo decided to switch back to Activision's network (which was considered more "liberal") and also declared Interplay to be an independent publisher. Its debut product? None other than the revolutionary *Battle Chess*, which became another major seller and again pushed the Amiga to the fore.

Next in line was *Neuromancer*, a sci-fi RPG based on the William Gibson cyberpunk novel of the same name. Finally, Interplay paid its own tribute to the *Bard's Tale* genre by releasing *Dragon Wars*, a fantasy RPG with similar overtones but larger graphic windows, an im-

proved mouse and menu interface, and automapping features.

As the company entered the 90s it began to diversify its interests, and therefore its products were not constricted to simply being role playing or adventure games. *Battle Chess II: Chinese Chess* marked a daring new step towards a whole new market of consumers, and subsequent products like *Checkmate* and *LexiCross* continued this trend.

Interplay has not forgotten its RPG roots, though, with recent games like *Lord Of The Rings Volume One* (and the soon to be released *Volume II: The Two Towers*), and upcoming RPGs like *Star Trek*, *Dragon Wars II*, and *MeanTime* later this year.

With *Castles*, Interplay has managed to break into the strategy game market and will likely maintain a strong presence in this arena (especially with the new *Castles Northern Campaigns* disk, and the inevitable *Castles II*).

As a measure of its increasing stature as an independent publisher in the computer game market, French software house Delphine chose Fargo's group to market its popular Cinematique line of mouse controlled graphic adventures in the US. These include *Future Wars*, *Operation Stealth* (which Interplay renamed *James Bond: The Stealth Affair* after the company was granted the rights to Ian Fleming's superspy for the US market), and a new title called *Out Of This World*.

Interplay has plans to continue its strong backing of the Amiga, with all of its new lineup for 1992 slated for eventual Amiga release. Unfortunately C64 gamers will miss out, as even *Bard's Tale IV* will not be available on 8 bit format. As to CDTV support, Fargo maintains a "wait and see" attitude. *Battle Chess* has already been transferred across to CDTV, but whether any other popular titles will make the transition remains to be seen.

To survive a decade in a fairly oppressive software market often plagued by piracy and bankruptcy is remarkable, and even more so in Interplay's case. While bigger companies like their former partners Activision have fallen by the wayside, Interplay continues to grow in strength and will likely be celebrating 20 years in business in 2002. Bravo, guys!

Games Update

Realm Chit Chat

Darren Mummery has a query about D&D games ... "One thing that confuses me is that after completing each game I find a number of Journal entries that I have missed through the duration of the game. I was wondering if a number of the journal entries are written just to throw people off course who read entries before they come to them during the course of the game."

MS: Can anyone relate to Darren's confusion?

David Marjanovic writes ... "Would you recommend *Space Quest IV* as I wasn't that impressed with *Space Quest III* as it only took about 6 hours to complete?"

MS: I am becoming fairly reluctant to recommend any of the newer Sierra games to experienced adventurers because of the many complaints that they are just too easy. *Larry 5* has suffered this fate. There isn't much to the solution to *Space Quest IV* (see the Second Realm Hint Book), however I am told it offers a reasonable challenge. With re-

spect to *Larry 5*, Allan Mills of Holt adds...

"In fact, the people the game is seemingly best for are the people who shouldn't be playing it ... kids!"

Allan also adds this bit about *Kings Quest V* ... "Did I read correctly that the Amiga has only got a 32 colour version of *Kings Quest V*? This really isn't that surprising since the (256 colour) IBM version that I played was running at 20Mhz but was still a bit slow for my taste. So much for the Amiga's mighty colour range!"

MS: With the advent of IBM's 256 colour VGA and Super VGA graphics the Amiga palette is looking a little thin! Things have certainly changed over the past year or so - it's almost no time since we were complaining about the poor quality graphics of games ported across from PC versions! Now they're far better. Time stands still for no man - nor for computers. Even so, surely 32 colours suits the purpose - after all, we are talking about adventure games!!

Welcome to the second in this series of entertainment news for the Amiga. This column is brought to you by "those in the know" at **Interlink Software** (see their ad elsewhere).

Microprose continue to produce top-quality games. Their **Special Forces** includes excellent presentation, graphics and gameplay. The player controls a team of hard-hitting commandos operating deep in enemy territory, in multiple missions ranging from sabotage to POW rescue. Involving strategy and tactics, **Special Forces** should be on the shelves by the time you read this.

As a follow-up to their original **Team Yankee**, Empire have now released (you guessed it!) **Team Yankee II**, sub-titled **Pacific Islands**. It retains the same design format as the original, but the gameplay is much more testing. Looks good!

From Maxis, who didn't bring us **Sim Earth** for the Amiga (yet!), comes their new **Sim Ant**. Already proving to be a big seller in PC format, this certainly offers something different. You play the part of an ant! Go on foraging expeditions, set up new colonies, defend your nest against spiders, annoy the owners of the house whose backyard you live in! Good fun, with good graphics and sound. Out now.

Fans of LucasFilm's **The Secret of Monkey Island** are eagerly awaiting the sequel, **Monkey Island II, Le Chuck's Revenge**. They will not be disappointed as the sequel continues the excellent story-line, graphics and sound that were so well received in the first game. Not to be missed!

Any of the above games may be ordered or discussed with **Interlink Software** on (06) 293-2233. New releases are generally reviewed in their **AmigaLink Disk Magazine**.

Cheers,
The Games Gurus

Realm's Adventure Swap

If you have some old adventure games that are no longer distributed, you might like to swap them for other old adventure games. Send in the names of the games you wish to swap, and your address (to be published).

Paul Andrews of 10 Sovereign St, Hallet Cove, SA has an arcade game pack. I can't mention it because you can still buy the games from the stores!!!

Daniel Smith of 5 Patapinda Rd, Old Noarlunga, SA 5168 also has a games pack to swap, but again, reasonable availability of these games prevents me

from mentioning them.

It is important that only old games are swapped because the computer entertainment industry is in a bad enough state financially without the Realm adding fuel to the fire!

Jim Waller writes ...

"I would be interested in exchanging or buying any Infocom titles, particularly *Beyond Zork*, *Cutthroats*, *Seastalker*, etc. I knew about Mastertronic releasing some titles but I have only seen *Zork I & III*, *Hitchhikers*, and *Leather Goddesses* so far."

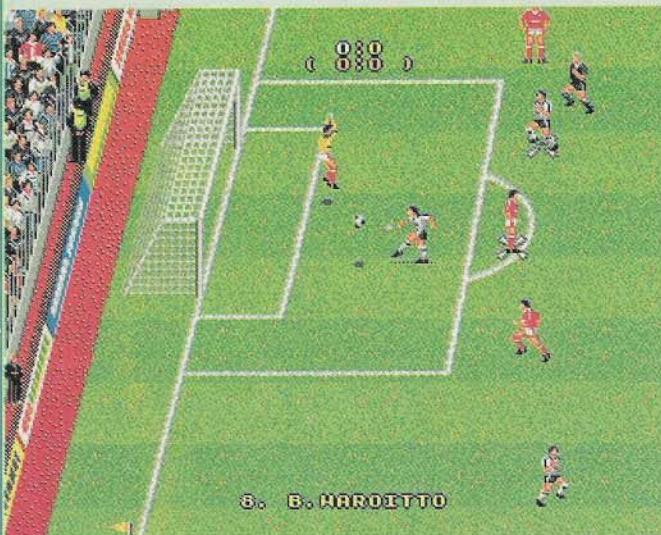
QUICKSHOTS

JURIS GRANEY takes a quick look at the latest games...

Manchester United Europe

As I stride onto the field, I look around at the crowd. Millions of blurry faces stare back. My team mates and I know the task ahead of us. We have to defeat the number two team in the national league.

The other team runs out onto the ground and we take our positions. The whistle blows, and suddenly the ball is at my feet. I run down the ground, past the defence. I come to the goal. I kick the ball with my left foot and it goes flashing past the goalie into the net.



Looks good, but looks can be deceptive.

Back to reality. *Manchester United Europe* is just another one of those endless soccer games. Run up one end, score a goal and then defend for the rest of the match.

The game is not very interesting when it comes to graphics. The ground looks pretty ordinary and the crowd is very boring. The players, though, are well drawn. Their movements are slick and quick, their dives are brilliant and the goalie is especially impressive. The sound track is okay.

The thing that really separates this game from its rivals is that they're addictive. *Manchester United Europe* is not.

Ratings:	Graphics:	60%
	Sound:	70%
	Addictiveness:	45%
	Lastability:	50%
Overall:		69%

Distributed By: Electronic Arts (075) 911 388
RRP: Amiga \$59.95
C64 \$39.95

Supaplex

You're Murphy, big game hunter extraordinaire, exploring deep inside a crazy computer. The only way out of each brain-teasing level is to collect the infotrons and this is where the fun begins! Snik Snaks must be avoided at all costs...and falling Zonks will trap the unwary...exploding discs, electrons and ports add up to the craziest game to date.

Remember *Boulderdash*? Well, *Supaplex* is just the same except for added features which really spice the action up. With improved graphics this game is a hit. The gameplay



A better *Boulderdash*...

still stands up against such games as *Shadow Of The Beast II* and the like.

The thing that makes this game so good is its simplicity. New features like menus and weapons make this game addictive. You can enter your name and it has a nice looking high score chart. The graphics are great and the sound is excellent. If you liked *Boulderdash* and all its clones then this is another one for the collection.

For all you action seekers look again - this game is hard and needs more than a quick trigger finger to complete. With 111 levels it will occupy your disk drive for months, or if you are brilliant, a couple of nights.

Ratings:	Graphics:	86%
	Sound:	80%
	Addictiveness:	70%
	Lastability:	60%
Overall:		75%

Distributed By: Electronic Arts (075) 911 388
RRP: Amiga \$59.95

Face Off Ice-Hockey

Yes, it's another one of those American games in which your main objective is to maim as many people as humanly possible, and the secondary objective is to win the game.

I don't mind a bit of ice hockey in small doses, but too much is bad for your health. *Face Off* is the same. The screams of the crowd surge as you smash your opponent into the wall. They grow louder when there is a brawl in the middle of the rink. And it's deafening when the reserves and coaches join in. In *Face Off Ice-Hockey*, you view the field from the side.

The most interesting feature of the game is the graphics.

Face Off - the action in progress.



They are excellent. A little slow, perhaps, but excellent. Sound, on the other hand, leaves a bit to be desired. The game is simple in theory, but when you get down to the nitty gritty, Ice

FACE-OFF



KRISHLIS
(C) 1991

Hey ! This guy looks just like Juris

Hockey is quite complex. You'll need a little brain power and a lot of brawn to play successfully. I enjoyed this version of *Ice Hockey*, but the speed of the game needs improving. The players move slower than a relaxed sloth.

Ratings: Graphics: 80%

Sound: 65%

Addictiveness: 60%

Lastability: 50%

Overall: 65%

Distributed by: Pactronics (02) 748 4700

RRP: Amiga \$14.95

Fuzzball

Another day had come and gone just as slowly as they always had. The wizard's apprentice was growing more anxious by the day, and his over enthusiasm had landed him in deep water more than once. He was fed up. His master still hadn't named the day when he would be able to boast of joining the ranks of high order wizards.



The Fuzzball !

Time ticks by. But one fateful day, the impatient young apprentice finds an old oak chest in one of the wizards chambers, and opens it with a magic spell from a large dusty book. The chest rattles, the lid flies open, and a steady stream of Fuzzballs fills the room. The apprentice casts another spell to close the chest, but it back-fires and turns him into a Fuzzball too! Now you take the control of the Fuzzball, who



When your spell goes wrong...

has the task of returning all of the other Fuzzballs to their lair and collecting the jewels which they had stolen as they left the chest. Exciting stuff.

But seriously, *Fuzzball* is an exciting game filled to the brim with fury ..um.. Fuzzballs. The game is set on many platforms and the action is always climactic. The fun begins when you shoot the Fuzzballs, they shrink, bounce and turn into an even meaner sight. The graphics are cute, the sound is good and it is very addictive. A must for all platform wizards.

Ratings: Graphics: 79%

Sound: 80%

Addictiveness: 80%

Lastability: 76%

Overall: 86%

Distributed by: Electronic Arts (075) 911 388

RRP: Amiga \$59.95

Here's a rare treat - a quality game by an Australian programmer! Read on, as Phil Campbell slips on his coloured pyjamas and checks out...

WORLD SERIES ONE DAY CRICKET

As you read this, Australia have just played Sri Lanka in Adelaide. Pakistan have played South Africa in Brisbane. And New Zealand have just taken on the West Indies in Auckland. Don't tell me you haven't noticed. Yes, it's the World Cup Cricket. Just turn on your telly - add a dash of Winter Olympics and you've got wall to wall sport.

Naturally, if you're a cricket fan you just can't get enough. And there's nothing better than sitting back in front of the telly with a glass of something cold and refreshing, and waiting for something exciting to happen. Like a seagull walking onto the pitch.

If you're not a fan, of course, even the black and white movie re-runs on the other channel seem fascinating. And if that's you, stop reading now. Go no further. Because here's a game that's definitely for cricket buffs only.

The World Series One Day Cricket Game has a long and complex title. Fair enough. Cricket is a long and complex

The teams meet...

game. What other sport takes a whole day to play? Programmed and produced in Australia, the game was written in the AMOS language by Daryl Holden. A mighty good effort too - it's a professionally presented product.

The game is fully configurable, with a team editor, adjustable fielding positions, and provision for choosing the number of overs in your one day match. A good thing - after all, even though a real match takes a full day, that's one aspect I wasn't so keen to simulate. I chose three overs per side for a quick preview.

South Africa have been out of international competition for a while - let's have a look at how they're going to perform. I select them from the pre-configured teams on the screen, then choose Australia as their opponents. I control the South African team, who are the first to bowl.

Kepler Wessels, Roy Pienaar and Hussein Manick are the bowlers I've selected - they'll take one over each. The crowd roars as I move Wessels back and turn to start his approach. There's a selection of eight bowls to choose from - you can send down a yorker, an in-swinger, a leg cutter, or a leg-spinner, a googly, and off spinner, an out swinger, or a nasty short pitched delivery.

The choice is made by pressing

the fire button as you push your joystick in any of the eight possible directions. Once you've made this move, the bowl is carried out automatically - the overall result depends on where you positioned your bowler at the start of his run. My South African guys bowl well. By the end of the three overs, the score stands at 3 for 12.

I'm quietly confident - until it comes time to bat. Batting takes timing, skill, stamina and judgement. I've got ... ummm... none of the above. I take charge of poor ol' Kepler Wessels as he faces his first delivery. My job is to move him into the path of the ball, select one of eight possible strokes by moving my joystick, and then crack the ball by hitting the firebutton at precisely the right time.

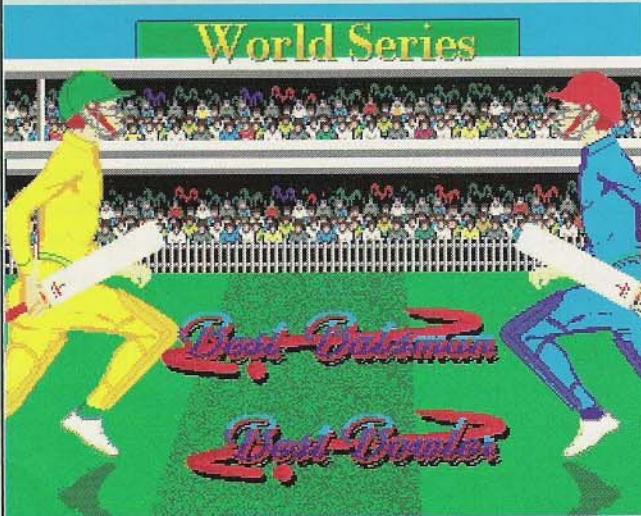
You guessed it - Wessels is out for a duck, his stumps lying splayed on the ground. And the rest of the team don't fare much better. The score? All out for one meagre run. Clearly, I need practice.

The World Series One Day Cricket Game is potentially a lot of fun, particularly in two player mode. You'll put in many a rainy afternoon playing against your friends, and developing all the subtle tactical skills that make cricket what it is.

Justin Smith's graphics are nicely done, with an impressive opening sequence and a businesslike main screen display. There are two "windows" on the action, one focussing on the bowler, the other on the batsman. Further windows display batting and bowling statistics, while the umpire is displayed in the centre.

Sound effects are well done, with snatches of digitised commentary, good crowd sounds, and a nice "craaack" when you make contact with the ball. With a recommended retail price of \$59.95, *The World Series One Day Cricket Game* is a timely release - the package also contains full player statistics for all World Cup teams, a set of draw sheets, and a program for the real-life 1992 World Cup.

The game is produced and distributed by Pactronics, (02) 748 4700.



Air/Sea Supremacy

Well folks, here is another compilation consisting of three brilliant simulations, one horizontal shoot-everything-on-the-screen kind of game and a 3D game in which you have to conquer islands.

First off, there's *Gunship*. This game is a classic. You fly an Apache Hughes 64 helicopter. One of the best attack helicopters around.

You fly hundreds of missions against thousands of enemy ground units and other helicopters. The graphics are 3D, and the sound is excellent. The game is easy to get into and even easier to enjoy. If you like helicopters or you like any kind of simulation this game is the go.

Verdict: What can I say except that it is absolutely brilliant?

Silent Service is another classic. In this game you take control of a World War II submarine in the Pacific.

It places you in the role of submarine captain, and presents you with the same information, problems, and resources available to an actual sub captain.

Included are numerous scenarios, play variations and options. There are five detailed battle station screens, realistic graphics and sound effects and numerous commands to provide a dramatic level of realism and playability.

Verdict: *Silent Service* is fun to play, but difficult to understand unless you're an old sea hand.

You've been in the air - now try the depths of the sea

The graphics are decent and the sound is okay. It is very addictive and the new missions keep you interested.

Wings is not a game about winning or losing. In fact in this game you can't lose, and the only winner is the player with enough skill and determination to face over 230 different missions and see the war through to the end. You find new challenges and surprises at every step, and your opponents' skills and aircraft improve dramatically as the war progresses. The game is historically accurate wherever possible.

However, the 56th Aerosquadron which you fly for is fictional. In the game you're based in France, though the real 56th Squadron was an elite unit made up of the top pilots in England.

Verdict: *Wings* is a brilliant game. Great graphics and sound combined with addictive gameplay really makes this game a classic.

Carrier Command is a very difficult game. I have played this game for a while and didn't like it. The graphics are poor, there are nearly no sound effects and the gameplay is awful. The basic idea behind *Carrier Command* is to

rescue islands who turn hostile. I find the most fun is to send all my Walruses out and shoot them with my deck gun.

Verdict: One of the poorest games I have played. It has its moments, but not many of them.

The P-47 Thunderbolt was one of the top American fighters in WWII. In this game you fly your P-47 through eight frenzied levels of enemy activity, bombing ground vehicles and shooting aircraft. At the end of each level you must confront and destroy a large enemy battleship, tank or plane to progress to the next level.

Along the way there are several pickups. Each time you collect one of these, your energy level increases, starting at level one and increasing to a maximum level of four. Your energy level determines the number of special weapons that each pick-up releases. For example, when you have collected the pick-up for bombs, you will fire one bomb for each level of energy.

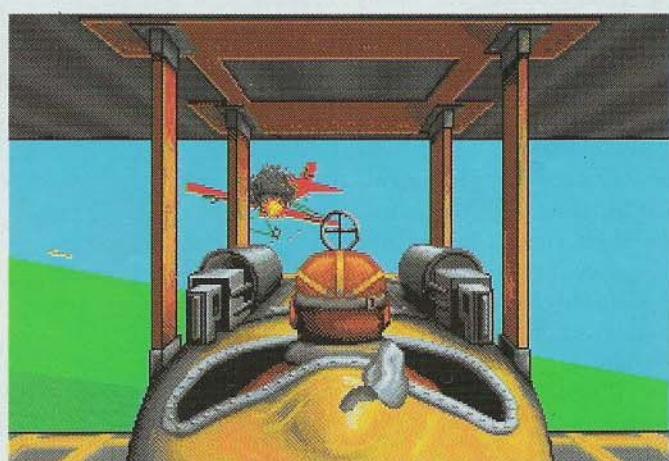
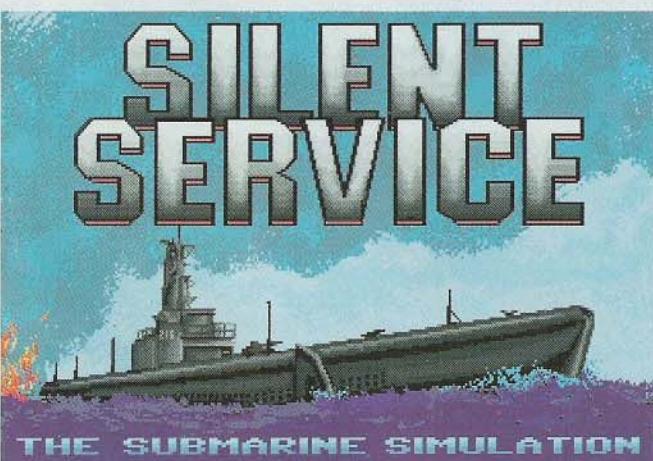
Verdict: *P-47* is a nice game with nice graphics and okay sound. It lacks addictiveness and lastability.

In short, *Air/Sea Supremacy* is a great compilation. I'd recommend it to any one who loves great sims.

Distributed by Questor (02) 662 7944.
RRP: Amiga \$69.95.

Ratings:

Graphics:	80%
Sound:	80%
Addictiveness:	70%
Overall:	85%





Dave Sanna leads you on a wild adventure through the lands of the Shadow Sorcerer. Can you survive?

Last year role playing games were well received, finally gaining the respect that they've long deserved. Such success has seen the genre develop at a dazzling rate, with increasingly sophisticated game systems sporting ever-more impressive gameplay at a level of speed which will not bore the average gamer.

Shadow Sorcerer is a new concept in role playing adventures that means in minutes you can be confronting the Shadow Sorcerer himself. The down side is that within minutes you could be dead!

In this game you control the destinies of the Companions of the Lance, the characters featured throughout the Dragonlance saga. Our heroes have just rescued 800 slaves from the city of Pax Tharkas, stronghold of the deadly and determined Draconians.

You now must find a safe and suitable place for them beyond the Great Southern Range. A mountain range so rugged, that getting across is almost impossible because the only road through it is owned by the one and only SHADOW SORCERER! (EGAD!). Are you brave enough to take on this gigantic task ... read on!

Shadow Sorcerer is a graphic action/strategy game played in a real time environment. There is a graphic on the top of the screen which shows

the passing of time through each day. Many functions of the game are controlled by the passage of time. The most important of these is your lead time before the Draconians chase you. Every action you undertake uses time especially when you are crossing mountains and when your mages and clerics are rememorizing their difficult spells.

The game uses two types of maps: the Tactical map and the Wilderness map. The Wilderness map has little detail and only the main mountain ranges are shown along with the icons of your party of Heroes, the refugees and the advancing Draconians. The tactical map is in an isometric view and shows a close up view of the terrain and your characters exploring and during battle.

At the very beginning of the game you can choose your party of four heroes (out of the possible 16 characters) to

Fight off the demons on this scrolling isometric display



lead the others to safety. There are Clerics (healers from the gods who eat mungbeans), Magicians (wise chaps with spells and things), Fighters (meatheads, with more brawn than brains, wielding powerful axes and swords) and Archers (basically meatheads with a better aim with arrows.)

The combat scenes almost always occur as you explore each part of the land. The message 'A chance encounter...' appears frequently as you prepare for battle.

(Just a warning for you! Be sure that everyone is healed before battle and that your mages and clerics have rememorized all of their spells.)

You can glance at your hero's attributes by clicking on their respective portraits in the corners of the screen. You can also choose default settings for the action of each character if combat should occur. You can also escape the area if the enemies are too tough. (Do this especially if there is a big red Dragon about to sneeze in your direction!)

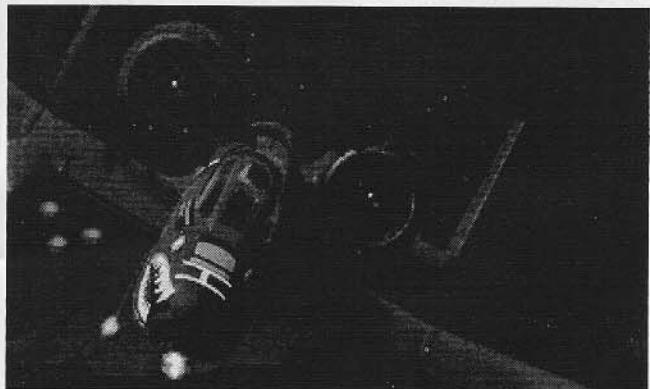
Graphics are very good for a role playing game and the animations that complement them are fine indeed. During combat you see your archer twang his bow at an enemy or a magician cast a deadly spell or your fierce fighter bring down his heavy sword, cleaving the skull of his adversary. (Well, swinging his sword up and down anyway.)

The musical score of this game is VERY limited except for the quaint little jingles accompanying the "chance encounters" and the title screen. The sound effects during battle are better though - the last "Ughh!" of a dying soul, the "Glitch!" of slicing flesh ... yes, an appetising game!

Overall, *Shadow Sorcerer* is an enjoyable game, with fast moving and thought provoking gameplay. Happy adventuring!

Distributed by Electronic Arts (075) 911 388. RRP Amiga \$59.95.

Playability	88%
Graphics	79%
Sound/FX	54%
Lastability	82%



Ken Simpson straps himself in to the pilot's seat to file this report on yet another Amiga flight-sim ...

It was my most successful mission yet. I destroyed nineteen T-80 tanks, eleven AFVs, a SAM site, and a convoy of trucks. Unfortunately, as I headed in to destroy another SAM, I found out what happens when an A-10 "Warthog" loses both left and right tails at once.

The A-10 is pretty tough. Built with lots of structurally redundant parts, it can fly with half a wing missing, or huge holes in the fuselage. But it doesn't fly so good with both tails gone! In fact it doesn't so much fly as plummet! I suddenly found myself looking straight at the ground several hundred feet below. It was over in seconds.

The A-10 is one of the most remarkable pieces of military aeronautical hardware ever built. The most devastating feature of the aircraft is its 30mm cannon, the Avenger. A 30mm bullet is the diameter of a 20 cent piece, and creates a hole considerably larger than that in its target.

With seven revolving barrels, the Avenger can fire an incredible 4200 depleted uranium shells per minute. That's 70 very heavy projectiles per second! Think about it. No wonder the A-10 became the first aircraft to have ground forces surrender to it in the Gulf Fiasco.

Inevitably all Amiga flight sims must be compared to the original and the best - *F/A-18 Interceptor*. The style and feel of the two games are very different. *A-10* stacks up as well as most others, but like all the rest it's still that touch behind *F/A-18* when it comes to getting the right ratio between realism and playability.

I found the *A-10* flight simulator harder to fly than *F/A-18*. The Warthog is a totally different combat plane. It flies slower, lower, and is much easier to crash. Unlike *F/A-18*, which gives a Linda Blair style (360 degree) cockpit view, your sight is restricted to the direction you are pointing. This makes it considerably harder to find targets again once you've flown over them. Most times I've crashed have been when I've tried to turn at low speed for another bombing run, and stalled. There's not much you can do if you stall at 65 feet, except hit the ground!

There is a realistic delay in the plane's response to your joystick, which takes some getting used to. The A-10 is a sluggish brute to control, but just as effective in its role as the more glamorous jet fighters.

As far as targets go, you have a choice of half a dozen missions as in *F/A-18*, but there is more to shoot at. There are nine hostile units you may encounter, ranging from Tanks to MiGs. There's more than one way to go about a mission, and you must make more tactical decisions than in *F/A-18*. You can fly one mission, or start a campaign, which will be recorded on disk until your pilot's status becomes "deceased."

There's a variety of weapons to choose from. Before each mission you decide how to equip your Tank Killer. There are Heat Seeking Sidewinder and Maverick Missiles for use against other aircraft and ground vehicles. There are cluster bombs, effective against truck convoys. There are Laser Guided Bombs which destroy buildings, bridges, bunkers and most other things starting with B! There is the Matra Durandel Anti-Runway penetration Bomb, which needs no further explanation. And of course the awesome Avenger Canon, which can rip a whole tank convoy to shreds.

The game comes on two disks, and may be copied onto a hard disk, which would be advisable, as there's a lot of disk accessing between screens when you begin a new mission. There are some nice still photos and a good soundtrack. The game can be paused at any time.

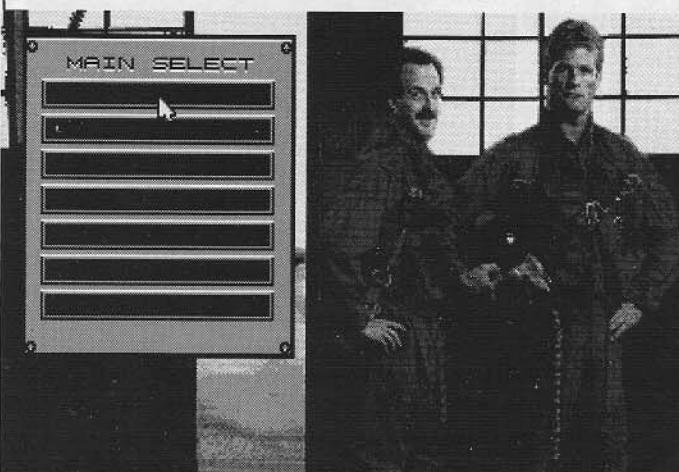
A-10 is more realistic than *F/A-18*, more challenging, and offers more tactical choice. The downside is that this comes at the expense of ease of play, and the nature of the aircraft simulated means that the high speed thrills of *F/A-18* or *F16 Falcon* are absent.

Nevertheless, *A-10 Tank Killer* will still provide plenty of adrenalin injecting action.

Distributed by OziSoft (02) 313 6444. RRP Amiga \$69.95.

RATINGS:	Playability:	70	
3D Graphics:	80	Addictiveness:	75
Sound:	60	Instructions:	90
Music:	75	Overall value:	75

Ready for action? Here are the options



A slashing we will go, a slashing we will go ... grab your sword and come along, as Juris Graney gets stuck into the bad guys in the Psygnosis sequel to Barbarian ...

Barbarian II

The story goes like this. Hegor the Horrible - that's you - slew his evil brother Necron and cast him into the Pit of Dissolution. Thinking that he was dead, Hegor returned to his kingdom to take the throne. The High Council didn't like the idea - they dissuaded him and gave him an incentive to leave ... loads and loads of gold.

Hegor soon wasted his money on wine and women, and had to return to dragon slaying as a steady job.

One night while drinking in a local tavern, he was bragging about defeating his brother when a slimy individual claimed Necron had been brought back to life. Hegor stood up and left.

It is now your job to find Necron and to kill him. But this time, make sure of it!

After the success of *Barbarian*, Psygnosis had to create a game with flowing game play - which the first game lacked - and improved graphics. They certainly did that alright! There are no more of those awful icons which

took tricky mouse and joystick combinations to execute. The game play is now brilliant. A few keyboard commands, the joystick, and that's it.

The graphics of *Barbarian* were good, though I felt they were somehow a bit annoying for the eye to handle. Now the sprites are nicely drawn and are very colourful.

The style of the game is similar to the first - at the core it's just another beat 'em-up, though in this case, spiced up with excellent graphics and brilliant sound.

On your travels through these evil, demonic worlds, keep an eye out for money bags, new weapons, treasure chests, magic potions or handy gadgets.

Daggers, broadswords, spears, axes and crossbows can be collected and put to good use. There's one draw back for all you hackers - use your weapon too much and it will wear out. Every time you hit an enemy, the blade's power will decrease until finally it breaks into tiny little pieces.

Hegor the Horrible can only carry three objects at a time. This is where you use your wits against the computer to figure out what you're going to carry and what you're going to leave behind.

The screen is well set out. Your energy and your weapon's energy is shown on the left hand side of the screen, and your inventory on the right. The scrolling is smooth and slick and a delight to watch. *Barbarian II* looks nothing like the original *Barbarian* - it's nice to have some variety!

Psygnosis claim that *Barbarian II* features 2,000 frames of animation, with 32 colours on screen, full parallax scrolling, and over one megabyte of fully animated sprites. This combined with six levels of pure slashing mayhem and 50 ugly looking enemies will definitely keep you glued to your computer.

The one problem with the game is that it lacks any real challenge. I got right up to Necron in level 6, though I still can't beat him. I spent over half an hour ducking and weaving around him, but to no avail. Even so, *Barbarian II* is a great improvement over the original.

Distributed by Questor (02) 662 7944.
RRP Amiga \$69.95.

Ratings:

Graphics:	92%
Sound:	90%
Addictiveness:	70%
Lastability:	65%
Overall:	75%

Hack and slash your way through levels 1 ...



BIRDS OF PREY

Fly-Boy Dave Sanna is simply over the moon with this multi-faceted flight-sim. Read on and you'll find out why ...

Flight simulation. These two words in the Amiga gaming world stand for the "Accurate representation of the essence of flight". Games which have come close to this statement are the likes of *FA-18 Interceptor* and *F-15 Strike Eagle II*. But there hasn't been a game before with as much excitement, as much realism, as much breathtaking speed and accuracy as *Birds Of Prey*.

This extraordinary simulation gives you the opportunity to fly 40 different aircraft, fire 30 different missiles, and drop a huge assortment of bombs.

Gameplay: Okay! After some disk accessing you are witness to a brilliant display of dogfighting between two F-16s and two MIG planes over a wonderfully generated fractal desert-scape complete with ravines and hills.

The sounds of both crafts' engines as they hit the afterburners is amazing. This intro repeats itself until you click the mouse button and some more disk accessing begins - a little long but the game is well worth it.

Wisely, Electronic Arts have designed

A dazzling intro sequence ...



the game so you can boot straight from disk 2 if you want to skip the intro altogether.

The game begins as you enter a name for your pilot, or load a saved one. You can choose the level of difficulty, accuracy of the graphics, terrain type, just about anything to make your mission as close to the real thing as possible. After this you then choose one of 12 possible missions - Air interception, Stealth bombing, Reconnaissance, Troop drop and Test pilot just to name a few.

The Test pilot mission is different, and very novel idea. You can test drive three different aircraft - my favourite is the X-15A. It can reach speeds of over Mach 10 at a height just inside the earth's atmosphere of 598,467 feet! But first things first.

To start off with I chose an Interception mission. It's up to you to decide whether you're going to fly for NATO or the Soviet forces - we're all friends now, so it doesn't much matter!

However, the NATO forces have a better and larger range of aircraft. I chose the F-15E Eagle for its speed, agility and weapon capabilities. Soon after this I was briefed on my mission and was then instructed to arm my plane. Choosing the best long and medium range missiles I was ready for take off. Your plane has a multitude of gauges and information that are necessary for a real life confrontation with the enemy. With four different HUD modes you get the best view of every thing. After taking off I switched to the auto pilot to take me to the intercept zone and I was "warped"

there in no time.

Reducing the throttle to 70% thrust, I intercepted two enemy aircraft. AMRAAMS at the ready, I closed in on the second MIG, and went for missile lock. He was darting in and out of hills at 300 ft at Mach 2 and I had to reach full thrust, use super human maneuverability and fire all of my missiles before locking on to him and spreading his titanium cockpit across the landscape.

Now for the other one. Armed with gun only I played a kamikaze game of "chicken" with him at speeds of Mach 2.35 ... two seconds later ... "BOOOOOM!" as I collided with him and disintegrated instantly. Time for a new pilot!

Graphics are variable as I have said, but in any mode they are very reflective of any of the best flight sims around. Though the flying appears to be a bit jerky at higher detail levels, it's still very accurate.

The music and sound effects in this game are top class. The starting of a jet engine as it winds up to full throttle and the sound of a missile narrowly missing your plane are unforgettable to say the least.

Overall I was totally thrilled to play this brilliant game and I would strongly recommend it to anyone who enjoys an in-depth flight-sim, or anyone who just wants to go for a bash at Mach 4!

Distributed by Electronic Arts (075) 911 388. RRP Amiga \$69.96.

Graphics:	81%
Sound/FX:	84%
Playability:	89%
Lastability:	95%

So good you could sit and watch all day!



We all like to play god, don't we? And Juris Graney likes it more than most, as he unleashes a series of earth-shattering events in the sequel to the ever popular *Populous* ...

Populous II

Suddenly, the earth opens up and devours most of my population. I watch helplessly as the tiny figures slowly fall into massive crevices, never to be seen again. Naturally, I'm not happy. So I place a volcano right smack in the middle of my enemy's growing city. Lava spews out onto the surrounding ground, and the heathen hordes run towards the water - only to face a whirlpool engulfing the coastline. There's no escape, unless they join the forces of good. Which they do. Ahhhh - that's better. My population level is restored, and I'm happy again.

We're playing *Populous II*, sequel to one of the most successful games ever released. This time, the action is set in ancient Greece.

As one of the many sons of Zeus the All-Father, you demand your rightful place among the gods on Mount Olympus. But Zeus isn't about to give you your inheritance just for the asking. You must prove your worth by defeating the 32 divine opponents who rule the 1000 worlds of *Populous II*.

So the scene is set for an absolutely brilliant game. If you liked *Populous*,

you will absolutely adore the sequel.

Basically, the game is the same as *Populous*, though there are heaps of added features.

First, you can create your own deity. Then you gain experience points for every world you complete. With these experience points you can gain greater power over the six forces of nature. You can decide to concentrate on a particular element - becoming, say, a Fire-god - or you can spread your experience over all the forces.

I found it was better to spread my points to get a better range of divine abilities, rather than putting all my eggs in the one basket.

The programmers boast that there are over 40 new effects in *Populous II*. These include columns of fire, plagues and pestilence, whirlpools, tidal waves and water spouts - impressive stuff.

There's also a feature called "Divine Intervention." With this option you can cause earthquakes to rip apart your opponents' land, or - as I did - create a volcano right in the middle of your foes' territory and let it rip. You can even arrange for a tidal wave to crash onto

enemy settlements and wipe them off the face of the earth.

When you complete a world by turning all your average workers into heroes and all your average women into heroines, it's time to send them into the middle of the world for a Grand Battle. If you win, you'll gain experience and get to see the battle in replay from an overhead camera view. And if you lose? Well, I'll let you find out for yourself.

The final conflict in the Conquest series is against your father and supreme master, Zeus. Defeat Zeus and you can take your seat among the gods. Well, after a day's conquering, that's a reward I'm still looking forward to. So far I have reached level 106 and the game hasn't even peaked.

Interestingly, Bullfrog - the programming team behind *Populous I* and *II* - are talking about *Populous III*! But let me tell you, it will have to be pretty damn good to beat this one. Besides, I'll still be enjoying *Populous II* for a long time to come.

Distributed by Electronic Arts (075) 911 388. RRP Amiga \$69.95.

Ratings:

Graphics:	86%
Sound:	60%
Addiction:	95%
Lastability:	96%
Overall:	90%

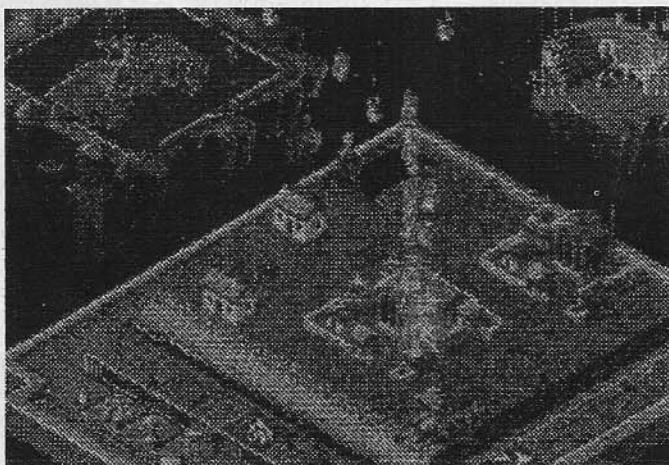
Populous World Editor

Electronic Arts have also just released an exciting accessory for *Populous* fans - The *Populous World Editor*.

With this program, you can add a new dimension to both *Populous I* and *II*. You can add mountains, castles, ruins and so on, and even edit the sprites themselves.

You don't need *Populous* to run the program, but naturally, you won't get to see the benefits without the main game to try it out.

There are seven land feature menus and seven sprite menus, and all of them have heaps of pre-drawn graphics for you to use and modify. The *Populous* Editor is a must for any budding world conquerer.



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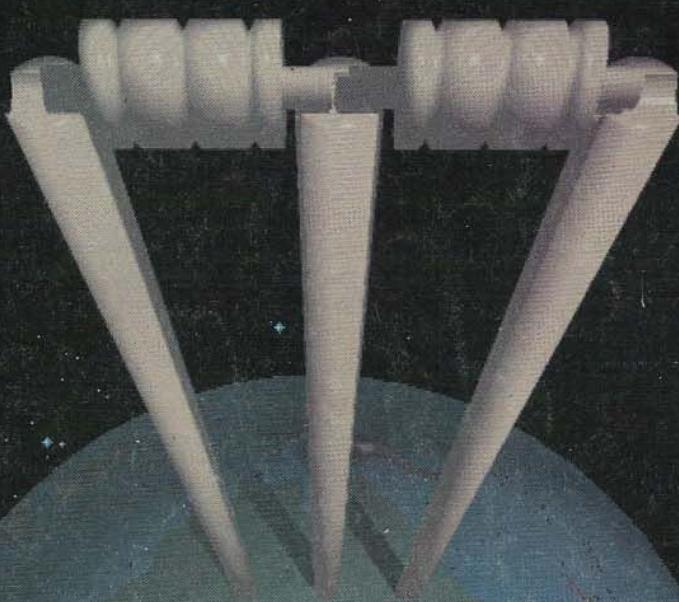
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